MDX-400/400RDS

SERVICE MANUAL

US Model
Canadian Model
E Model
MDX-400

AEP Model
UK Model
MDX-400RDS

Photo : MDX-400RDS

Model Name Using Similar Mechanism	NEW

SPECIFICATIONS

MiniDisc section

Signal-to-noise ratio	90 dB
Frequency response	20 – 20,000 Hz
Wow and flutter	Below

Tuner section

FM

Tuning range	FM tuning interval: MDX-400 : 50 kHz/200 kHz switchable 87.5 – 108.0 MHz (at 50 kHz step) 87.5 – 107.9 MHz (at 200 kHz step) MDX-400RDS : 87.5- 108.0MHz
Antenna terminal	External antenna connecter
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise radio	65 dB (stereo), 70 dB (mono)
Harmonic distortion at 1 kHz	0.5% (stereo), 0.3% (mono)
Separation	35 dB
Frequency response	30 – 15,000 Hz

AM

Tuning range	AM tuning interval: MDX-400 : 9 kHz/10 kHz switchable 531 – 1,602 kHz (at 9 kHz step) 530 – 1,710 kHz (at 10 kHz step) MDX-400RDS : MW : 531- 1,602kHz LW : 153- 281kHz (AEP model) SW : 5,950- 6,205kHz (German model)
Antenna terminal	External antenna connecter
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	MDX-400 : 30μV MDX-400RDS : MW : 30μV LW : 50μV (AEP model) SW : 50μV (German model)

General

Tone controls	Bass ± 8 dB at 100 Hz Treble ± 8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)

Indash unit

Dimensions	Approx. 178 × 50 × 180 mm (w/h/d) not incl. projecting parts and controls
Mounting dimensions	Approx. 178 × 50 × 160 mm (w/h/d) not incl. projecting parts and controls
Mass	Approx. 1.3 kg

Tuner/Preamp unit

Dimensions	Approx. 196 × 25 × 140 mm (w/h/d) not incl. projecting parts and controls
Mass	Approx. 0.6 kg

— Continued on page 2 —

US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

MDX-400 : FM/AM MINI DISC CHANGER

MDX-400RDS : FM/MW/LW(SW) MINI DISC CHANGER

SONY®

使用時は添付資料も参照のこと
Refer to the additional documents.

Supplied accessories Rotary commander RM-X38 (1)
Mounting hardware (1)
Power connecting cord (1)
Chassis ground cord (1)
Front panel case (1)
Bus (Unilink) cable (2 m) (1)
RCA pin cord (2 m) (1)
Antenna cord
  Main (1)
  Sub (1)

Design and specifications subject to change without notice.

SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

TABLE OF CONTENTS

Section *Title* *Page*

Specifications ···1

1. GENERAL ··3

2. DIAGRAMS

2-1. Semiconductor Lead Layouts ································24
2-2. Printed Wiring Boards
– HIDEAWAY SECTION – ························25
2-3. Schematic Diagram
– HIDEAWAY SECTION – ························29
2-4. Schematic Diagram – ROTARY SECTION – ·········33
2-5. Printed Wiring Boards – ROTARY SECTION – ·····37
2-6. Printed Wiring Boards – MAIN SECTION – ·········42
2-7. Schematic Diagram – MAIN SECTION – ·············47
2-8. Printed Wiring Boards – DISPLAY SECTION – ····51
2-9. Schematic Diagram – DISPLAY SECTION – ········55
2-10. Printed Wiring Boards
– ROTARY COMMANDER SECTION – ·····58
2-11. Schematic Diagram
– ROTARY COMMANDER SECTION – ·····58

3. EXPLODED VIEWS

3-1. Hideaway Section ···59
3-2. Cabinet, Chassis Section ····································60
3-3. Front Panel Section ···61
3-4. Mechanism Section-1 ···62
3-5. Mechanism Section-2 ···63
3-6. Mechanism Section-3 ···64
3-7. Rotary Commander Section ·································65

4. ELECTRICAL PARTS LIST ·····································66

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY-RELATED COMPONENT WARNING!!

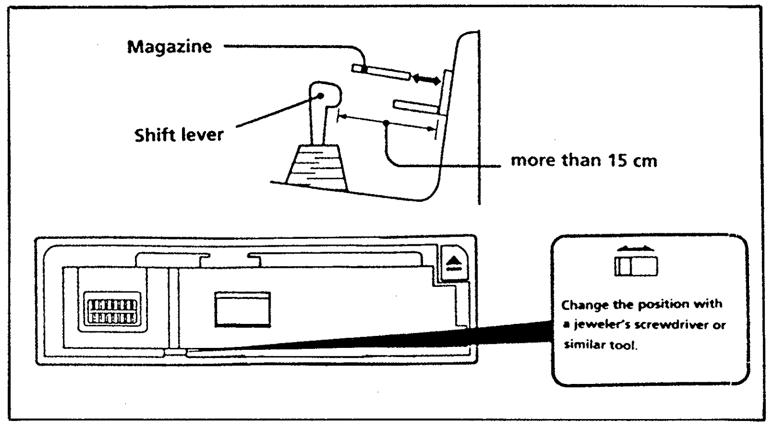
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

This section is extracted from instruction manual.

Precautions


Magazine
Shift lever
more than 15 cm
Change the position with a jeweler's screwdriver or similar tool.

- To be able to easily insert and eject the magazine, there must be a distance of at least 15 cm between the magazine slot of the unit and the shift lever. Choose the installation location so that the unit does not interfere with gear shifting or other driving operations.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for a safe and secure installation.

Mounting angle adjustment

Install the main unit at an angle between –20° and 30°.

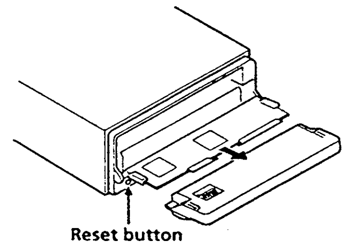
Depending on the angle your unit is installed, it may be difficult to read the displayed items in the display window. In this case, optimize contrast by changing the contrast adjust switch to one of three possible positions. (The switch is hard to see as it is located under the front panel.)

Reset Buttons

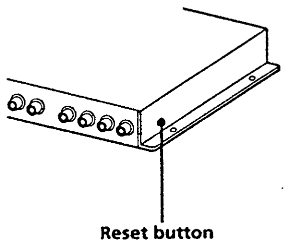
After installing and connecting, be sure to press the reset buttons with a ball-point pen or similar tool.

Press the reset button after completing the connections.

Indash unit


Reset button

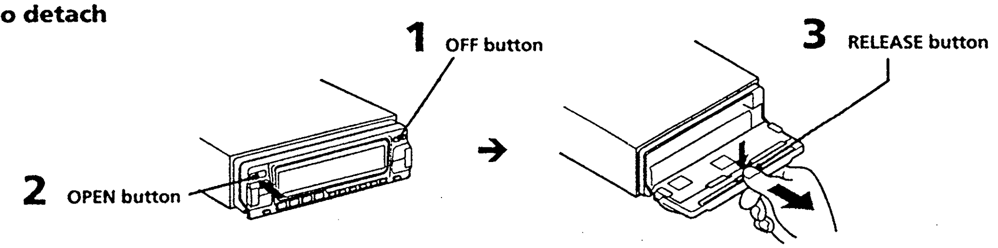
Tuner/preamp unit


Reset button

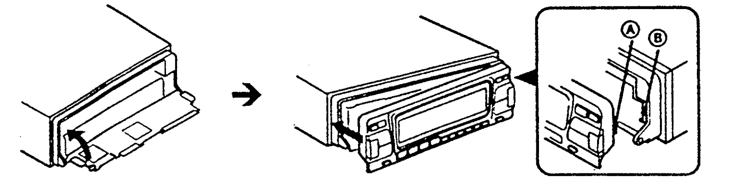
How to Detach and Attach the Front Panel

Be sure to detach the front panel before you start installing the main unit.

To detach


1 OFF button
2 OPEN button
3 RELEASE button

To attach

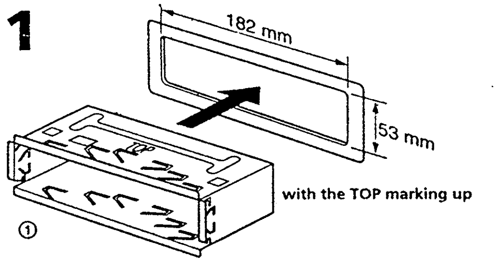


Be sure to attach the right side of the front panel first.

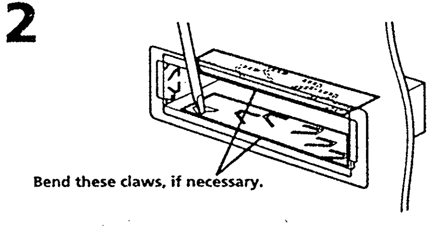
Main Unit Mounting Example

Installing into the dashboard.

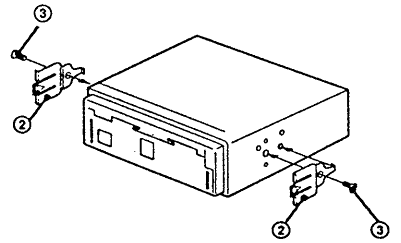
1


182 mm
53 mm
with the TOP marking up
①

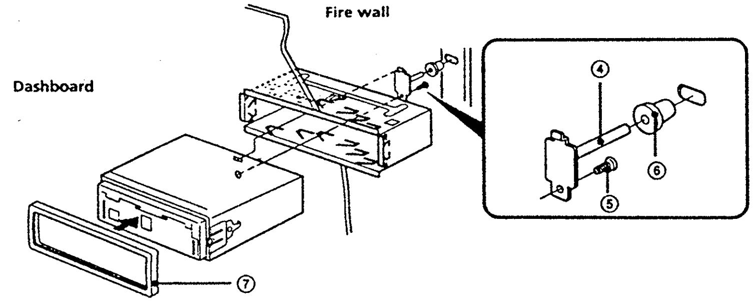
2


Bend these claws, if necessary.

3

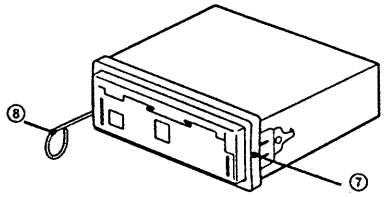


4


Fire wall
Dashboard
④
⑥
⑤
⑦

Note

Use the supplied special too ⑧ to remove the panel ⑦.

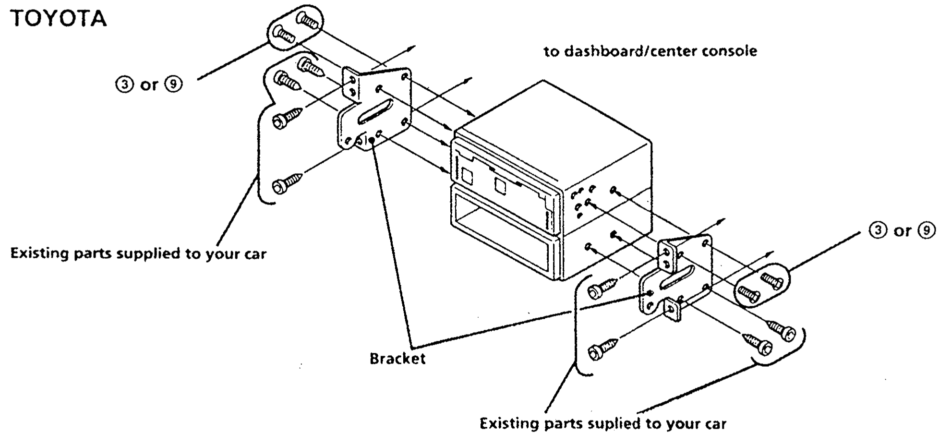


Insert between unit and panel, and pry off the panel.

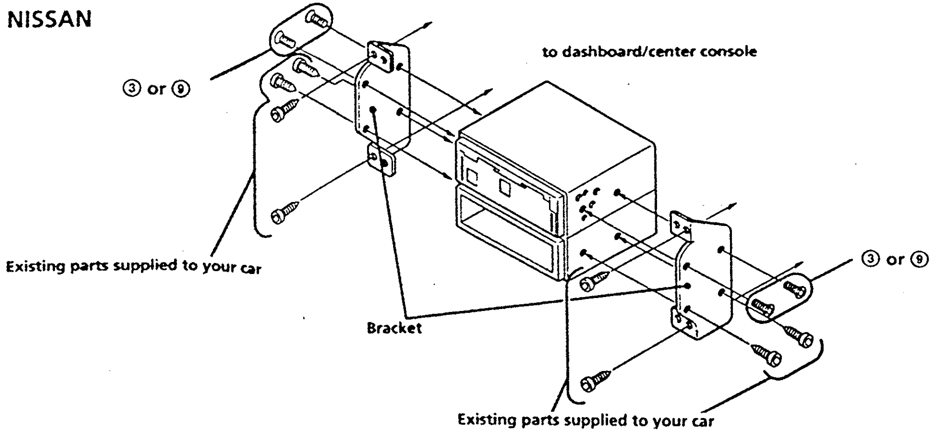
Mounting the Indash Unit in a Japanese Car

You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your nearest Sony dealer.

TOYOTA


③ or ⑨
to dashboard/center console
Existing parts supplied to your car
③ or ⑨
Bracket
Existing parts suplied to your car

NISSAN


③ or ⑨
to dashboard/center console
Existing parts supplied to your car
Bracket
③ or ⑨
Existing parts supplied to your car

Note

In case you combine your unit with other Sony Audio components to a system in double-deck arrangement, install the unit so that the surface of its front panel protrudes about 8 mm from the other components. If the unit is installed in the lower deck and interferes with gear shifting, install it in the upper deck.

SECTION 1
GENERAL

Connection

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the yellow and red power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all ground wires to a common ground point.**

When the Unit is Used in a Car with No Accessory Position on the Ignition Key Switch

— POWER SELECT Switch

To avoid this battery wear when using the unit in such a car, **set the POWER SELECT switch located on the bottom of the unit to the OFF position.** The illumination is reset to stay off when the unit is not being played.

Note

The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the OFF position.

When FM Diversity Antennas are Used

— FM DIVERSITY Switch

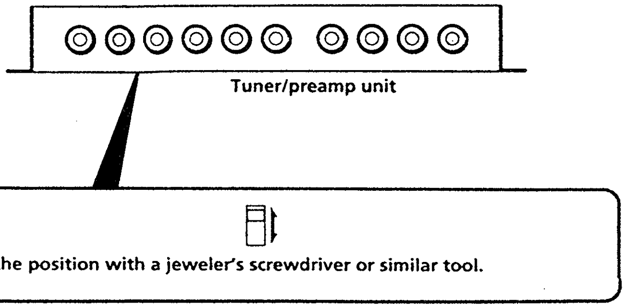
If you use this unit with diversity antennas, set the FM DIVERSITY switch located at the bottom of the tuner/preamp unit to the ON position to activate the diversity system.

When you do not use FM diversity antennas

If you wish to connect a conventional rod antenna, be sure to connect it to the antenna connector of the unit marked "MAIN", and set the FM DIVERSITY switch to the OFF position.

Note

The radio reception will be disturbed by noise if the connection of the antennas was not made properly or the FM DIVERSITY switch was not set correctly.


Tuner/preamp unit
Change the position with a jeweler's screwdriver or similar tool.

When you change the position of the switch, be sure to press one of the reset buttons after the connections are completed.

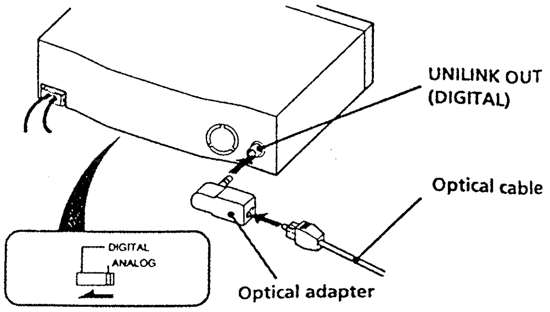
When making a digital connection

— DIGITAL/ANALOG Switch

To connect with the XDP-U50D, connect the optical cable (optional) to the optical adapter (optional), and plug the adapter into the special socket on the rear of the unit. Then set the DIGITAL/ANALOG switch to DIGITAL.

Note

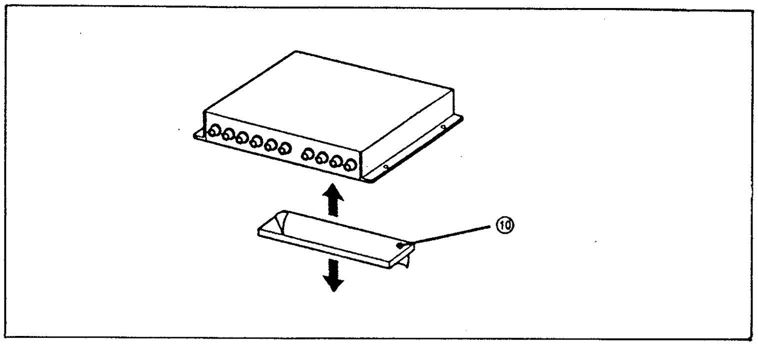
- The DIGITAL/ANALOG switch is factory-set to ANALOG.
- After changing the switch position, make sure to press one of the RESET buttons.
- If the switch is not correctly set, the unit will work without producing a sound.



Installing the Tuner/Preamp Unit

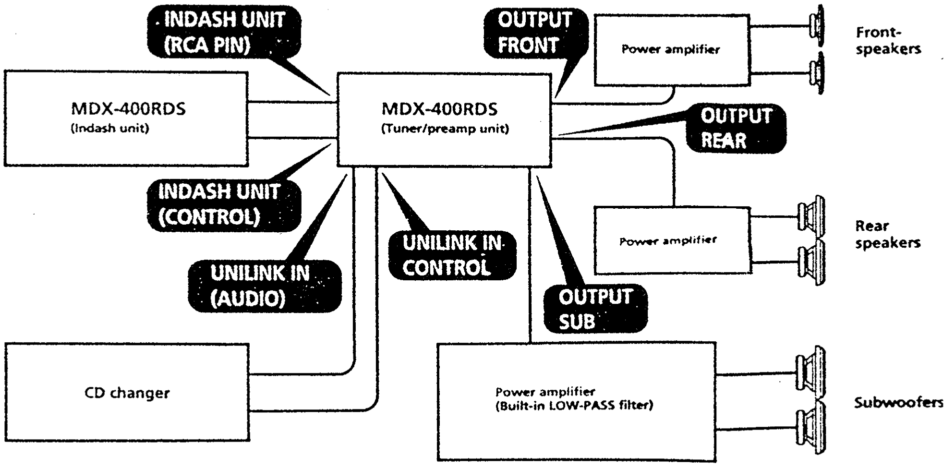
- Choose the installation location so that the tuner/preamp unit does not interfere with operating the car and poses no danger to passengers.
- We recommend to install the tuner/preamp unit on the passenger's side below the dashboard.
- Depending on the installation location of the tuner/preamp unit, you may need the Bus(Unilink) cable (supplied with an RCA pin cord) RC-62 (2 m) when you combine the unit with other car audio components to a system.

Before attaching the double-sided adhesive tape, clean the surface where you intend to attach it.

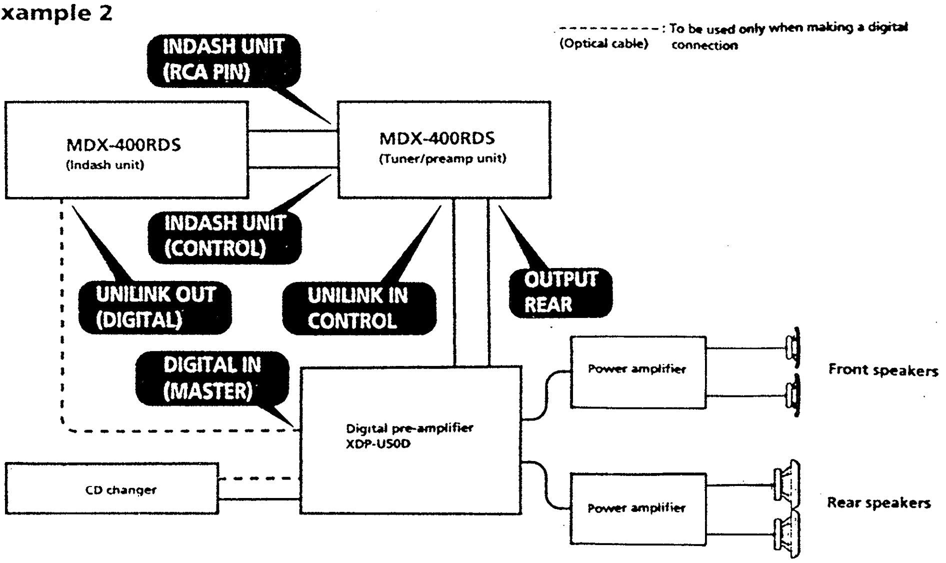


Connection Diagram

Example 1

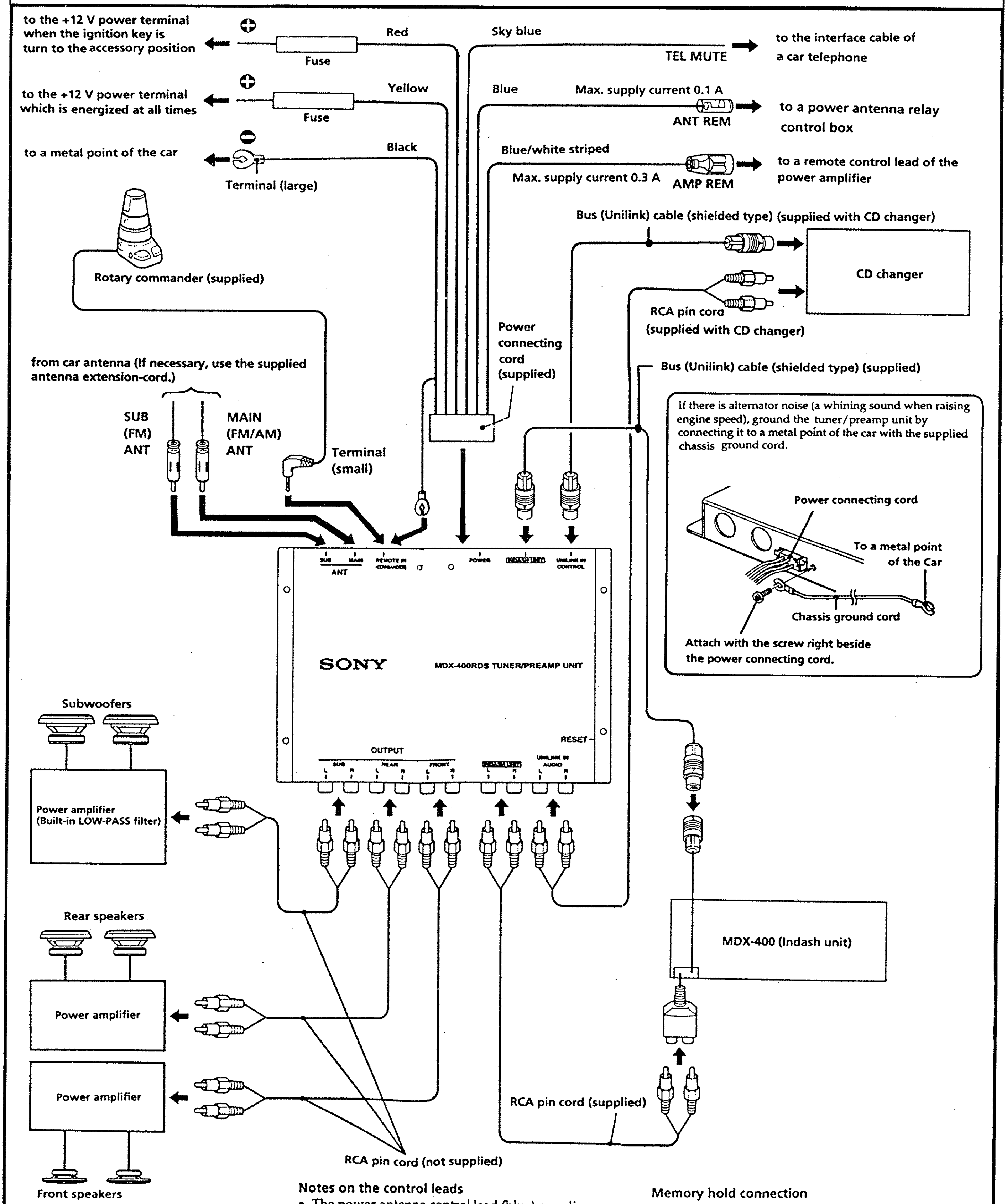

INDASH UNIT (RCA PIN)
OUTPUT FRONT
MDX-400RDS (Indash unit)
MDX-400RDS (Tuner/preamp unit)
Power amplifier
Front-speakers
OUTPUT REAR
INDASH UNIT (CONTROL)
UNILINK IN (AUDIO)
UNILINK IN CONTROL
OUTPUT SUB
Power amplifier
Rear speakers
CD changer
Power amplifier (Built-in LOW-PASS filter)
Subwoofers

Example 2


----------: To be used only when making a digital connection
(Optical cable)
INDASH UNIT (RCA PIN)
MDX-400RDS (Indash unit)
MDX-400RDS (Tuner/preamp unit)
INDASH UNIT (CONTROL)
UNILINK OUT (DIGITAL)
UNILINK IN CONTROL
OUTPUT REAR
DIGITAL IN (MASTER)
Digital pre-amplifier XDP-U50D
Power amplifier
Front speakers
CD changer
Power amplifier
Rear speakers

In case you want to make a digital connection by connecting the indash unit and the XDP-U50D with the optical cable, make sure to connect UNILINK OUT (DIGITAL) of the indash unit with DIGITAL IN (MASTER) of the XDP-U50D.

Connection Example


to the +12 V power terminal when the ignition key is turn to the accessory position
Fuse
Red
to the +12 V power terminal which is energized at all times
Fuse
Yellow
to a metal point of the car
Terminal (large)
Black
Sky blue
TEL MUTE
to the interface cable of a car telephone
Blue
Max. supply current 0.1 A
ANT REM
to a power antenna relay control box
Blue/white striped
Max. supply current 0.3 A
AMP REM
to a remote control lead of the power amplifier
Bus (Unilink) cable (shielded type) (supplied with CD changer)
CD changer
RCA pin cord (supplied with CD changer)
Rotary commander (supplied)
Power connecting cord (supplied)
Bus (Unilink) cable (shielded type) (supplied)
from car antenna (If necessary, use the supplied antenna extension-cord.)
SUB (FM) ANT
MAIN (FM/AM) ANT
Terminal (small)
SUB
MAIN
ANT
REMOTE IN COMMANDER
POWER
INDASH UNIT
UNILINK IN CONTROL
SONY
MDX-400RDS TUNER/PREAMP UNIT
RESET
OUTPUT
SUB
REAR
FRONT
L
R
INDASH UNIT
UNILINK IN AUDIO
Power connecting cord
To a metal point of the Car
Chassis ground cord
Attach with the screw right beside the power connecting cord.
Subwoofers
Power amplifier (Built-in LOW-PASS filter)
Rear speakers
Power amplifier
Power amplifier
Front speakers
MDX-400 (Indash unit)
RCA pin cord (supplied)
RCA pin cord (not supplied)

If there is alternator noise (a whining sound when raising engine speed), ground the tuner/preamp unit by connecting it to a metal point of the car with the supplied chassis ground cord.

Notes on the control leads

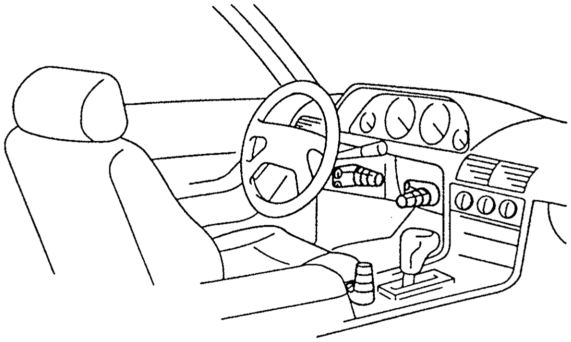
- The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner.
- A power antenna without relay box cannot be used with this unit.

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Installation

Example of a mounting location



Installing the Rotary Commander

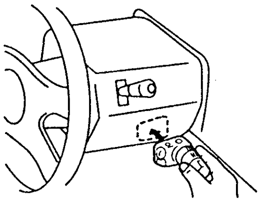
Before installation

Be sure to select the position of the operational direction switch on the bottom of the rotary commander before mounting it. See "Operational direction switch" for details. Mount the rotary commander onto a suitable place which is the most convenient position for operating it such as the steering wheel column, the dashboard or the center console etc.

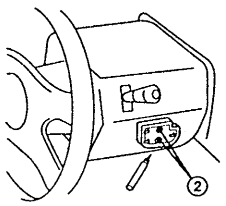
Notes

- Choose the mounting location carefully so that the rotary commander will not interfere with operating the car.
- Do not install the rotary commander in a place where it may jeopardize the safety of the (front) passenger in anyway.
- When installing the rotary commander, be sure not to damage the electrical cables etc. on the other side of the mounting surface.
- Avoid installing the rotary commander where it may be subject to high temperatures, such as from direct sunlight or hot air from the heater etc.

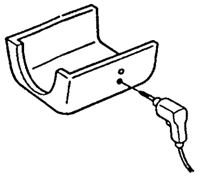
1 **Choose the exact location for the rotary commander to be mounted, then clean the mounting surface area.**



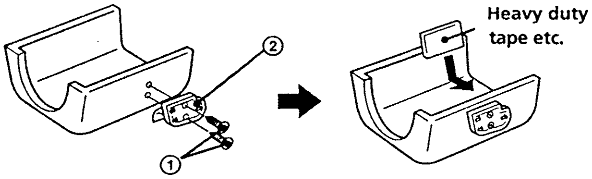
2 **Mark two positions for the supplied screws.**



3 **Remove the steering wheel column cover and drill 2 mm diameter holes where you have marked.**

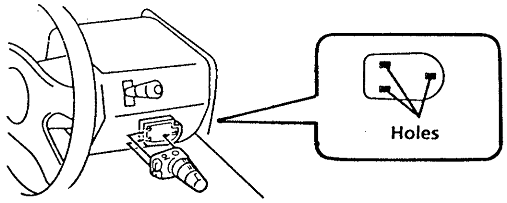


4 **Warm the mounting surface and the double-sided adhesive tape on the mounting hardware ② to the temperature of 20°C to 30°C, and attach the mounting hardware onto the mounting surface by applying even pressure. Then screw it down with the supplied screws ①.**



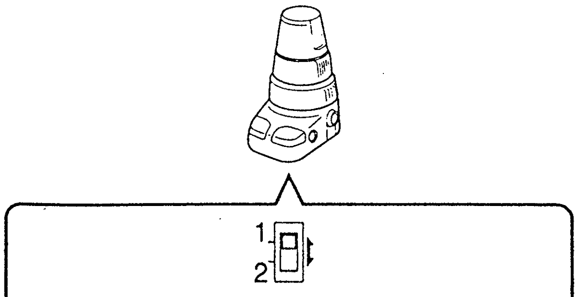
Attach a piece of heavy duty tape etc. on the other side of the mounting surface to cover the protruding tips of the screws so that they will not interfere with the electrical cables etc. inside the steering wheel column.

5 **After installing the steering wheel column cover, attach the rotary commander to the mounting hardware by aligning the three holes on the bottom of the commander to the three catches on the mounting hardware and sliding the commander until it locks into place as illustrated.**



Note

If you are mounting the rotary commander to the steering wheel column, make sure that the protruding tips of the screws on the inner surface of the column do not in anyway hinder or interfere with the movement of the rotating shaft, operative parts of the switches or the electrical cables etc. inside the column.



Use a jewelers screwdriver or similar tool to change the position.

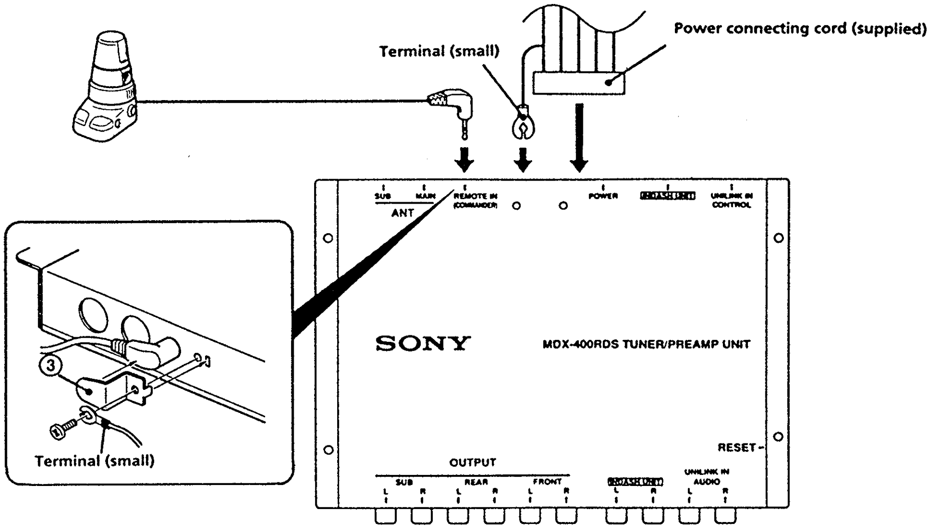
Operational direction switch

The operational direction of every control on the rotary commander may be wrong way round for you due to where the commander is mounted.

If you do not like the operational directions of the controls, change the setting of the operational direction switch which is located on the bottom of the commander. The operational directions of the controls on the commander will be the other way round.

Connection

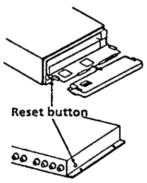
Connecting the Rotary Commander


Terminal (small)
Power connecting cord (supplied)
SUB
MAIN
ANT
REMOTE IN (COMMANDER)
POWER
UNILINK IN CONTROL
SONY
MDX-400RDS TUNER/PREAMP UNIT
RESET
OUTPUT
SUB
REAR
FRONT
L
R
UNILINK IN AUDIO
③
Terminal (small)

Remove the screw attached to the tuner/preamp unit, and connect the rotary commander. Then use the screw to install the plug holder ③ and the terminal (small) of the black lead (ground) from the power connecting cord.

Precautions

- Before operating the unit for the first time or after replacing the car battery, press the reset button on the front panel with a ball-point pen etc., and then start operating the unit.



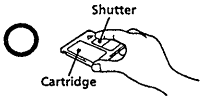
- If your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the unit to cool off before operating it.
- If no power is being supplied to the unit, check the connections first. If everything is in order, check the fuse.
- When the ambient temperature is extremely high or low, the display window may become difficult to see. However this is not a malfunction. When the temperature becomes moderate, the display will become normal.

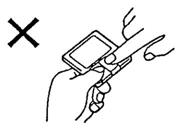
If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

Notes on MiniDiscs

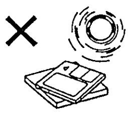
Since a MiniDisc itself is housed in a cartridge, free from accidental contact with your fingers and dust etc., it can withstand a certain degree of rough handling. However, dirt or dust on the surface of the cartridge or a warped cartridge may cause a malfunction of the unit.
To enjoy optimum sound quality, observe the following.

Never touch the surface of the MiniDisc itself by deliberately opening the shutter on the cartridge





Do not expose the MiniDisc to direct sunlight or heat sources such as hot air-ducts. Do not leave it in a car parked in the direct sunlight where there can be a considerable rise in temperature.
Make sure that it is not left on a dashboard or a rear tray of a car etc. where the temperature can also be excessive.



Cleaning

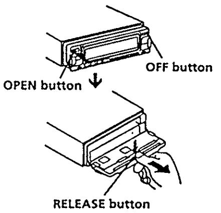
Wipe the surface of the MiniDisc cartridge from time to time with a soft dry cloth.

Moisture condensation

On a rainy day or in a very damp area, moisture may condense on the lenses inside the unit. Should this occur, the unit will not operate properly. In this case, remove the MiniDisc and wait for about an hour until the moisture evaporates.

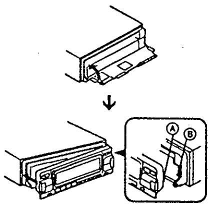
Detaching and Attaching the Front Panel

To detach
First, be sure to press the OFF button to cut off power supply to the unit. Next, press the OPEN button and open the front panel. Then detach the front panel by pulling it towards you while holding down the RELEASE button.



Be sure not to drop the panel when detaching it from the unit.

To attach
First, close the bracket to which the front panel was attached. Then attach part Ⓐ of the front panel to part Ⓑ of the unit, and press on the left side of the front panel until it locks in place.



Be sure to attach the right side of the front panel first.

Notes
- Do not press the front panel hard against the unit when attaching it to the unit. It can easily be attached by pressing it lightly against the unit.
- When you carry the front panel with you, put it in the supplied front panel case.
- Do not press hard or give excessive pressure to the display window of the front panel.
- Before removing the front panel, be sure to turn the power off. However, if you press the OPEN button to detach the panel while the unit is still turned on, the power will be automatically turned off in order to protect the speakers from being damaged.
- Do not expose the front panel to direct sunlight, heat sources such as hot air ducts or leave it in a humid place. Never leave it on the dashboard etc. of a car parked in direct sunlight where there may be a considerable rise in temperature inside the car.

Caution alarm

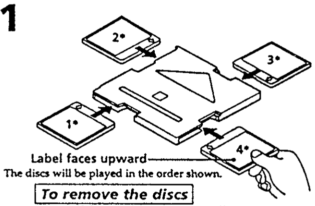
If you turn the ignition key to the OFF position without removing the front panel, the caution alarm will be activated and a beep tone will be heard for a few seconds (only when the POWER SELECT switch is set to the ON position).

For Safe Driving

We recommend you to use the supplied rotary commander to operate this unit. When you need to use the buttons on the unit for registering the custom file or setting the DSP modes etc., be sure to do so while the car is parked.

Preparations

1

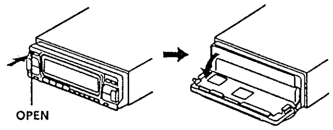


• The discs will be played in the order shown.

To remove the discs
Pull into the reverse direction.

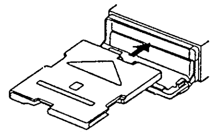
Notes
- To avoid malfunction, do not apply excessive force onto the disc magazine, and do not touch its interior.
- Do not insert MiniDiscs with the label facing downwards.
- Before inserting MiniDiscs into the magazine, make sure their shutters are closed.

2



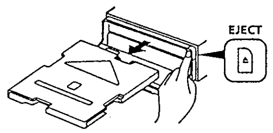
Note
When the front panel is open, do not place items on it or do not apply strong force onto it.

3



Insert the disc magazine.

To remove the disc magazine

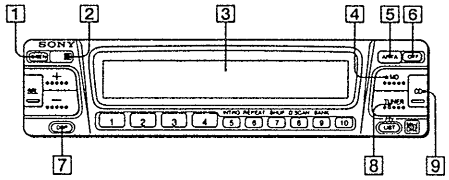


To change only one MiniDisc
Press the EJECT button. When the magazine has been ejected, you can replace the disc which is in location "1" of the magazine.

4 Close the front panel.

Location and Function of Controls

Indash unit

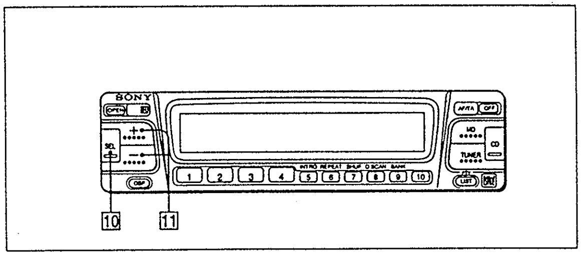


1. OPEN (front panel open) button
2. Receptor for the remote commander
3. Display window
   You can adjust the contrast of the display window.
   See "Precautions" in the Installation/ Connections manual.
4. MD (MiniDisc play) button
5. AF/TA (alternative frequency/ traffic announcement) button
   Each time the button is pressed, the function changes in order of:
   AF → TA → AF/TA → none → AF
   (MDX-400RDS ONLY)
6. OFF button
   Press to turn off the unit.
7. DSP* (DSP mode on • off/select) button
   If pressed lightly with the DSP XDP-U50D connected, this button will function as the DSP mode on/off button. If you press for more than one second, the unit will enter the DSP select/adjust mode. Each time you press the button, the DSP select/adjust mode and the display on the display window will change as follows:

Display window	DSP select/adjust mode
SUR	Surround menu select/ Effect level adjust
LP	Listening position adjustment
SUB	Subwoofer tone/volume adjustment
BAS	Bass adjustment
TRE	Treble adjustment

* Digital Signal Processor

8. TUNER (radio on/band select) button
   Each time the button is pressed, the band changes in order of:
   FM1 → FM2 → MW → LW (SW on the models for Germany, Switzerland and Austria) → FM1
9. CD (disc play/CD changer select) button



10 SEL (control mode select) button

11 +/− button

Normally, the +/− button is pressed to control the volume.
Pressing the SEL button changes the mode as follows:

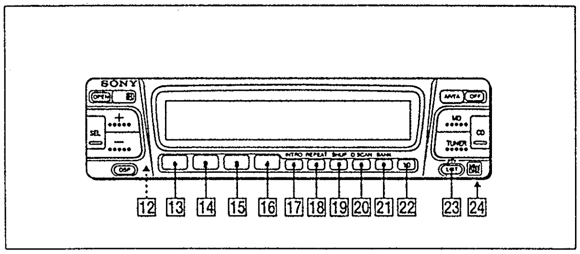
→ SUB → BAS → TRE → BAL → FAD → VOL →

Press the +/− button (to adjust the level) within three seconds, or the volume mode will return.

Display window	SEL	+/−	
	Control mode	Press – side	Press + side
SUB	SUB out level control	For less volume	For more volume
BAS	Bass control*1	For less bass	For more bass
TRE	Treble control*1	For less treble	For more treble
BAL	Balance control*3	To decrease the right speakers' volume	To decrease the left speakers' volume
FAD	Fader control*1,2	To decrease the rear speakers' volume	To decrease the front speakers' volume
VOL	Volume control	For less volume	For more volume

*1 The level of the SUB output cannot be adjusted.
*2 • When the optional XDP-U50D is connected, the fader settings can be set separately for the DSP on mode and DSP off mode.
• When you use a stereo graphic equalizer (not supplied), set the fader control to the center position and adjust the level with the equalizer.
*3 The level of the SUB output can be adjusted as well.

Location and Function of Controls

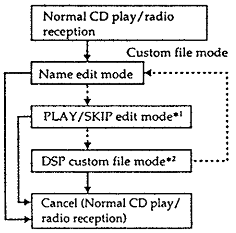


12 Reset button (located on the front side of the indash unit hidden by the front panel and on the side of the tuner/preamp unit)
Press this button when you use this unit for the first time, when you have changed the car battery, or when the buttons of this unit do not function properly.

	During MiniDisc playback	During CD play	During Radio reception
13 (1)	The direct disc selection buttons Press the button whose number corresponds with the desired disc number.	— •	Preset number button
14 (2)		— •	
15 (3)		— •	
16 (4)		— •	
17 INTRO button (5)	Intro scan	•	
18 REPEAT button (6)	Repeat play	•	
19 SHUF button (7)	Shuffle play	•	
20 D.SCAN button (8)	Disc scan	•	
21 BANK button (9)	—	Bank play •	
22 (10)	—	— •	

• The buttons 13 – 22 function as the direct disc selection buttons as well during CD play. Press the button whose number corresponds with the desired disc number for more than one second.

23 LIST (custom file mode select • set/list up) button
Each time the button is pressed, the mode changes as follows:
——▸ : Press the button for more than two seconds.
····▸ : Press the button lightly.



*1 The unit enters this mode only when the CD custom file function is activated.
*2 The unit enters this mode only when the DSP custom file function is activated.

When you press the button lightly, MD information (disc name), information about a selected CD or radio station will appear on the LCD in batches of four.

24 DIGITAL/ANALOG switch (located on the bottom of the indash unit)
See the description about the DIGITAL/ANALOG switch in the Installation/Connections manual.

Changing the illumination color

Press the 1 button while pressing the SEL button. You can choose the color between amber and green.

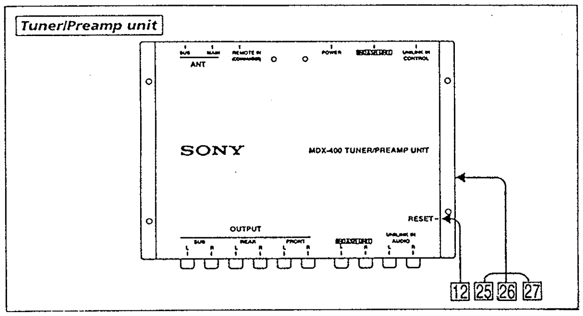
When listening at low volume with enhanced bass and treble (loudness function)

Press the 2 button while pressing the SEL button. **When the optional XDP-U50D is connected, the loudness function will not work.**

Muting the beep tone

Press the REPEAT 6 button while pressing the SEL button. To obtain the beep tone again, press these buttons once more.

Location and Function of Controls

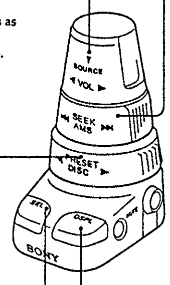


25 Frequency select switch (located on the bottom of the tuner/preamp unit)
See the description about the "Frequency Select Switch" in the installation/connection manual. (MDX-400 ONLY)

26 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT Switch" in the Installation/Connections manual.

27 FM DIVERSITY switch (located on the bottom of the unit)
See "FM DIVERSITY Switch" in the Installation/Connections manual.

Rotary Commander



SOURCE selector ☝ **/VOL (volume) control** ○
- Press to select program sources. Each time the button is pressed, the program source mode changes as follows:
  Radio → CD → MD → Radio.
- Turn to adjust the volume.

PRESET/DISC control ○

During MiniDisc/CD play
Changes the discs. (In case of CD play, the CD changer(s) has(have) to be connected.)

During Radio reception
Receives the stations memorized on the preset number buttons. (Preset search function)

SEL button ☝
Functions in the same way as the SEL button on the indash unit.

SEEK/AMS control ○

During MiniDisc/CD play

AMS* function
Locates the beginnings of the tracks. Rotate the control the number of times you wish to skip the tracks.

Manual search
Locates the desired part of a track. Rotate the control either left or right and keep it in the rotated position until the desired part is located.

During Radio reception

Automatic tuning
Automatically tunes to a station. When a station is tuned in, the search stops automatically. Rotate the control several times until a desired station is tuned in.

Manual tuning
Manually searches a station. Rotate the control either left or right and keep it in the rotated position until the desired station is tuned in.

DSPL (display mode change/time set) button ☝

MD play	Disc title•Elapsed playback time → Track title•Elapsed playback time → Clock
Radio reception*1	Frequency → Clock
CD play	Disc title*2•Elapsed playback time → Clock

*1 The display modes when RDS function is in operation. (MDX-400RDS ONLY)

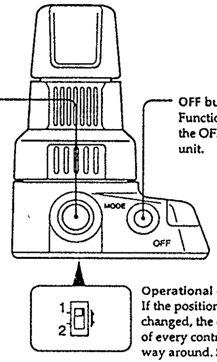
*2 If the title has not been registered, the "NO Name" indication will appear on the main display window.

○ *Turn* ☝ *Press*

When the POWER SELECT switch is set to the OFF position, the unit cannot be operated with the rotary commander unless one of the source buttons on the unit is pressed or a disc magazine is inserted to activate the unit first.

Note
If the SEEK/AMS control is kept at the rotated position and the end of the disc has been reached, " ˥ ˥ " will appear on the display window. Likewise, if the beginning of the disc has been reached, " ∟ ∟ " will appear on the display window.

* Automatic Music Sensor



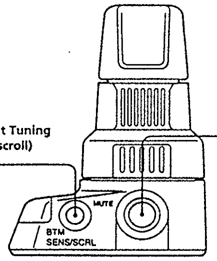
MODE button ☝

During Radio reception
Selects radio bands.
Each time the button is pressed during radio reception, the band changes as follows:
FM1 → FM2 → MW → LW (SW) → FM1 (MDX-400RDS ONLY)
FM1 → FM2 → AM → FM1 (MDX-400 ONLY)

During CD play
Selects CD changers when several CD changers are connected.

OFF button ☝
Functions in the same way as the OFF button on the indash unit.

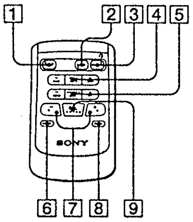
Operational direction switch
If the position of the switch is changed, the operational direction of every control will be the other way around. Select the position with a jeweller's screw-driver etc.



BTM/SENS/SCRL (Best Tuning Memory/sensitivity/scroll) button ☝
⑳㉑㉕

MUTE button ☝
Press to mute the sound momentarily. Press again to restore the same volume level. This button will be also canceled:
—when the ⏏ button or the OFF button is pressed.

Optional Wireless Remote Commander (RM-X40)



Buttons with the same function as those on the indash unit

1 OFF button

7 ⊖ ⊕ (sub output level/bass/treble/balance/fader/volume control) button

9 SEL (control mode select/character set) button

Buttons with the same function as those on the rotary commander

	During MiniDisc/CD play	During radio reception
2	MODE button	
	Selects CD changers when several CD changers are connected.	Selects radio bands.
3	SOURCE button Press to select program sources.	
4	AMS (Automatic Music Sensor) button*	SEEK (automatic tuning) button*
5	DISC (disc change) button	PRESET (preset search)

* You cannot do the manual search and manual tuning with the remote commander.

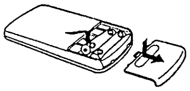
6 MUTE button

8 DSPL (display mode change/time set) button

When the POWER SELECT switch is set to the OFF position, the unit cannot be operated with the wireless remote commander unless one of the source buttons on the unit is pressed or a disc magazine is inserted to activate the unit first.

Optional Wireless Remote Commander (RM-X40)

Installing the Batteries



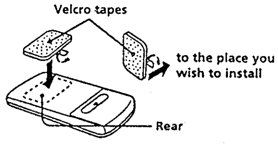
Two size AA (R6) batteries

Battery life
When the batteries become weak, you will not be able to operate the unit with the remote commander. Battery life is approx. six months although it depends on the way of use.

Notes on batteries
To avoid damage from battery leakage and corrosion:
— insert the batteries with correct polarity
— do not use an old battery with a new one, or different types of batteries together
— remove the batteries when you do not use the unit for a long period of time
— do not charge the batteries.

If any battery leakage occurs, replace the batteries with new ones after cleaning the battery compartment.

Installing the Remote Commander



Install the remote commander with Velcro tape in a desired place.

- Do not leave the remote commander in a location near any heat sources, or in a place subject to direct sunlight (especially on the dashboard in summer, etc.).
- When you park the car in direct sunlight, place the remote commander in a location not subject to direct sunlight such as the glove-box.
- Before installing the remote commander, be sure to confirm whether you can remote-control the unit from the place you intend to install the commander.
- Before attaching the Velcro tape, clean the surface.

Setting the Calendar Clock

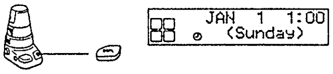
How to Set the Time

(Following explains how to set with the rotary commander. It is also possible to set with the and buttons on the unit.)

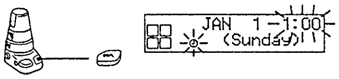
For example, setting to 10:08

1 **Turn the ignition key to the ON position.**

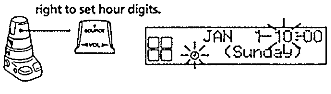
2 **If the time digits do not appear, press the DSPL button (on the rotary commander).**

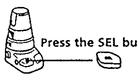


3 **Press the DSPL button for more than two seconds.**



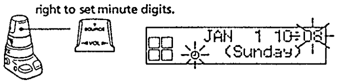
Rotate the VOL control either left or right to set hour digits.



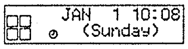


Press the SEL button.

Rotate the VOL control either left or right to set minute digits.



4 **The calendar clock will activate when you press the DSPL button.**



Notes
- You cannot set the calendar clock with the optional remote commander.
- If the POWER SELECT switch on the bottom of the unit is set to the OFF position, the clock cannot be set unless the power is turned on. Set the clock after you have turned on the radio, or started MiniDisc or CD play.

Even if you press other buttons (except the SEL and buttons), the clock will activate.

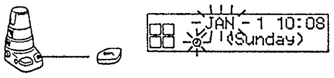
Setting the Calendar Clock

How to Set the Date

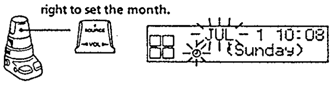
(Following explains how to set with the rotary commander. It is also possible to set with the and buttons on the unit.)

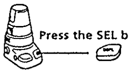
For example, setting to July 17.

1 **While holding down the DSPL button for more than two seconds as described in step 3 of "How to Set the Time", press the SEL button.**



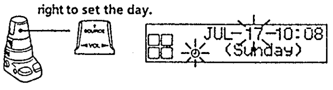
Rotate the VOL control either left or right to set the month.

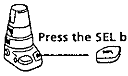




Press the SEL button.

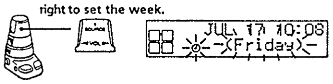
Rotate the VOL control either left or right to set the day.



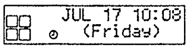


Press the SEL button.

Rotate the VOL control either left or right to set the week.

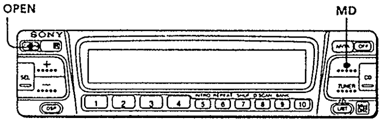


2 The calendar clock will activate when you press the DSPL button.



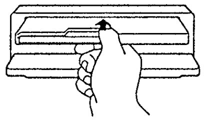
Even if you press other buttons (except the SEL and buttons), the clock will activate.

Listening to MiniDisc Play



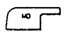
See also "Preparations" on page 6

Press the OPEN button, and open the front panel. Insert the magazine with the discs loaded until it locks in place.



When you close the front panel, the MiniDisc title* will appear momentarily. Then playback will start from the first track with the track title* being displayed.

If a MiniDisc is already inserted, press the MD button.



After the title of the MiniDisc has been displayed, the title of the currently played track* will be displayed. If the title is too long (more than 12 characters), you can scroll it from right to left by pressing the SCRL button (on the rotary commander) lightly.

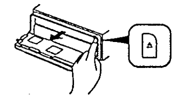
When the last track on the MiniDisc is over
The next disc will be played from the beginning of its first track. When the last track on the fourth disc has finished, the player returns to the beginning of the first disc.

Note
If a MiniDisc is already loaded in the unit, never try to insert another MiniDisc. Doing so may damage the unit.

* Only if there are prerecorded titles on the MiniDisc.

Ejecting the Magazine

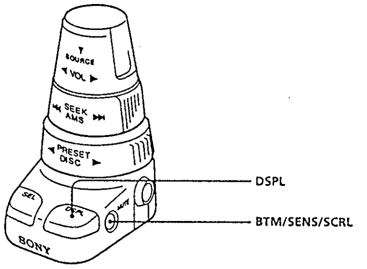
Press the OPEN button to open the front panel. Then press the ≜ button.



After opening the front panel, do not press the ≜ button until the blinking in the unit stops.

MiniDisc Changer Operation

Listening to MiniDisc Play



To display the calendar clock during MiniDisc play

Press the DSPL button until the calendar clock display appears.

To display the title of the currently played MiniDisc or track manually

Press the DSPL button until the desired display appears on the display window.

If these data are not prerecorded on the currently played MiniDisc "NO Disc Name", "NO Track Name" will appear for one second.
If the title is too long, you can scroll it across the display window by pressing the BTM/SENS/SCRL button.

BTM
SENS/SCRL

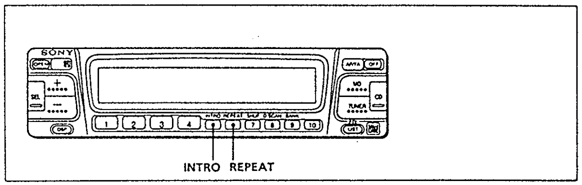
To display the recording date of the currently played MiniDisc

Press the BTM/SENS/SCRL button for more than two seconds while playing a MiniDisc. The recording date of the track will be displayed for approx. three seconds.

BTM
SENS/SCRL

This function will work only if the recording date is registered on the MiniDisc.

Playing in Other Modes



Listening to the First 10 Seconds of Each Track — *Intro Scan Function**

Press the INTRO button lightly during MiniDisc play to get the "INTRO" indication.

The first 10 seconds of all the tracks on the currently selected disc are played in order. After the first disc played with the intro scan function is over, the next disc will be played.

When you find the desired track, press the INTRO button again. The unit returns to the normal MiniDisc play mode.

* If the INTRO button is pressed during shuffle play, the first ten seconds of each track will be played randomly.

Playing a Track or Disc Repeatedly

— Repeat Play Function

Playing the currently selected track repeatedly — Track repeat

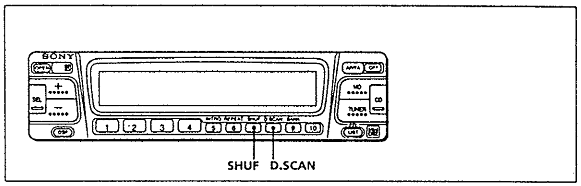
Press the REPEAT button lightly during MiniDisc play to get the "REP 1" indication.

Playing the currently selected disc repeatedly — Disc repeat

Press the REPEAT button lightly during MiniDisc play to get the "REP 2" indication.
When the last track on the currently selected disc is over, this MiniDisc will be repeated from the beginning.

The function of the REPEAT button changes cyclically as follows:

REP 1
(Track repeat)
↓
REP 2
(Disc repeat)
↓
Cancel (Normal MiniDisc play mode)



Playing Tracks or Discs Randomly

— Shuffle Play Functions

Playing the tracks on the currently selected disc randomly — Disc shuffle play

Press the SHUF button lightly during MiniDisc play to get the "SHUF 1" indication.
Each track on the MiniDisc will be played randomly once. When all the tracks on a disc have been played, the unit continues with the next disc.
To cancel the mode, press the button again.

Playing each track on each disc in the MiniDisc changer randomly — MiniDisc changer shuffle play

Press the SHUF button lightly during MiniDisc play to get the "SHUF 2" indication.

Searching for a desired disc in the magazine — Disc Scan Function

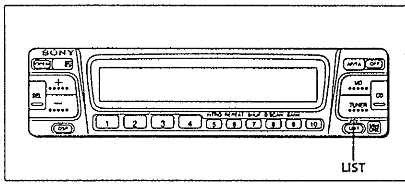
Press the D.SCAN button lightly during MiniDisc play to get the "D.SCAN" indication.

The first 10 seconds of each disc in the disc magazine are played in order.
When you find the desired disc, press the D.SCAN button again.
The unit returns to the normal MiniDisc play mode.

The function of the SHUF button changes cyclically as follows:

SHUF 1
(Disc shuffle)
↓
SHUF 2
(MD changer shuffle)
↓
Cancel
(Normal MD play)

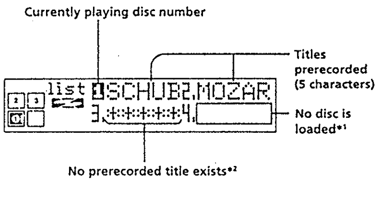
Displaying Information stored on MiniDiscs



The titles of the discs currently loaded and other information stored on the MiniDiscs will be listed on the display window.

Displaying on the display window

Press the LIST button lightly during MiniDisc play.


Currently playing disc number
Titles prerecorded (5 characters)
list
1SCHUB2,MOZAR
3,*****4,
No disc is loaded*1
No prerecorded title exists*2

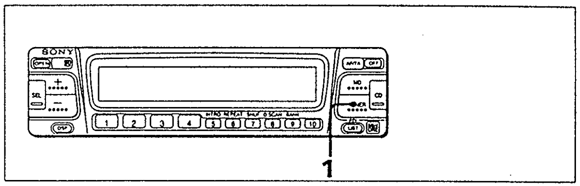
*1 A blank space will be displayed if there is a disc number representing an empty slot in the disc magazine.
*2 If a title is prerecorded on the MiniDisc, that name will be displayed. If there is no prerecorded title, "*****" will be displayed. If the disc information has not been read yet, "?" will be displayed.

Note
It may take some time before all the indications appear on the display.

Turning off the display

Press the LIST button once more.

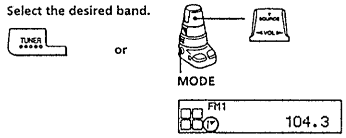
Tuning in a Station



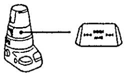
Searching for the Stations Automatically

— Automatic Tuning

1 Select the desired band.

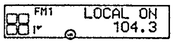


2 Rotate the SEEK/AMS control either left or right.



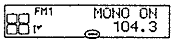
The "ST" indication will appear, when an FM stereo program with a sufficient signal strength is tuned in.

Avoiding the automatic tuning from stopping on stations too frequently (Local Seek Mode)



Press the SENS button lightly to get the "LCL" indication. Only the stations with relatively strong signals can be tuned in. The local seek mode functions only when the Automatic Tuning is in operation.

If FM stereo broadcasting is difficult to receive (Monaural Mode)

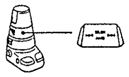


Press the SENS button lightly to get the "MONO" indication. The sound will improve, but it will become monaural.

Tuning in by Adjusting the Frequency

— Manual Tuning

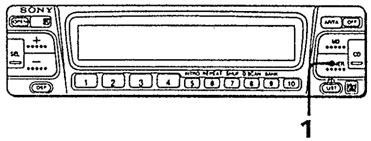
Select the desired band, then rotate the SEEK/AMS control either left or right and keep it in the rotated position until the desired station is tuned in.



PREVENTING ACCIDENTS

While you are driving, the use of the Automatic Tuning and the Memory Preset Tuning is recommended instead of the Manual Tuning.

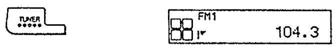
Memorizing the Stations Automatically



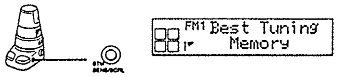
The best receiving stations are automatically searched and memorized on each band MDX-400:(FM1, FM2, and AM), MDX-400RDS: (FM1, FM2), MW and LW (SW)). Up to 10 stations on each band can be stored on the preset number buttons 1 to 10 in order of frequency.

Memorizing the Stations Automatically
— BTM (Best Tuning Memory) Function

1 Select the desired band.



2 Press the BTM button of the supplied rotary commander for more than two seconds.



The BTM function

During radio reception, the BTM function searches all the receivable stations within the currently selected band and memorizes the ones in good receiving conditions in sequence from the lowest frequency.

How to memorize the stations on the preset number buttons

—When there is no preset number indicated on the display window, all the preset number buttons set in the currently selected band will be filled with the memories.

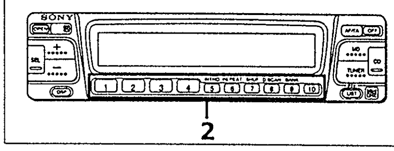
—When there is a preset number indicated on the display window, the unit will memorize the stations on the preset number buttons from the one currently being displayed. For example, when you choose FM2 and preset number 3 is being displayed, the operation will start from preset number 3 on FM2, and will stop at preset number 10 on FM2.

You can use the supplied rotary commander or the optional wireless remote commander as well.

The receivable frequency ranges of the FM bands (FM1, FM2) are the same.
Therefore, 20 stations can be memorized on FM.

Note
There may be cases, where there are not enough receivable stations due to the lack of stations in the vicinity or weak broadcasting signals. In such cases, the BTM operation may stop without all the buttons being occupied with memorized stations.

Memorizing Only the Desired Stations



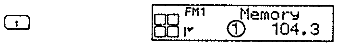
Up to 10 stations on each band MDX-400:(FM1, FM2, and AM), MDX-400RDS: (FM1, FM2, MW and LW (SW)) can be stored on the preset number buttons in order of your choice.

For example, storing a station on preset number button 1.

1 **Tune in the station which you wish to store on the preset number button.**

For the explanation of how to tune in, refer to "Tuning in a Station" on page 24.

2 **Keep the preset number button pressed for about two seconds until a beep tone is heard.**

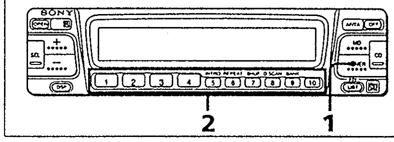


The number of the pressed preset number button now appears on the display window.

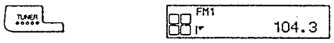
Repeat the same procedure to store other stations.

Each preset number button has only one memory location per band
If you try to store another station on the same preset number button, the previously stored station will be erased.

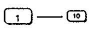
Receiving the Memorized Stations



1 Select the desired band.

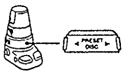


2 Press the desired preset number button lightly.



Receiving in Order the Stations Stored in the Memory — Preset Search Function

You can search the stations memorized on the preset number buttons by receiving them in order when you rotate and hold the PRESET control on the rotary commander repeatedly.

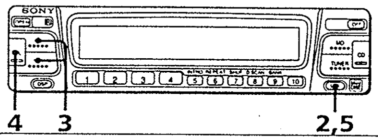


You can use the supplied rotary commander or the optional wireless remote commander as well.

Notes
- There may be cases, where even the stations which are stored in the memory cannot be received due to weak signals in the vicinity of your car.
- If you keep pressing the preset number button for more than two seconds, the currently received station will be memorized once more. To receive the previously memorized station, make sure to press the preset number button only lightly.

You can use the PRESET button on the optional wireless remote commander as well.

Displaying the Name of Each Station
— Station Memo Function (MDX-400 ONLY)



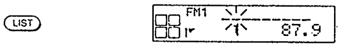
You can assign a name to each radio and store it in memory. The name of the station currently tuned in can be displayed on the display window.

Storing the Station Names in the Memory of the Tuner

1 **Tune in a station whose name you wish to register.**

For the explanation of how to tune in, refer to "Tuning in a Station" on page 24.

2 **Press the LIST button for more than two seconds to enter the name edit mode.**



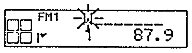
Name edit mode

3 **Press the button to select the desired characters.**

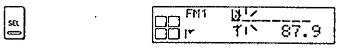
Each time you press the button, the characters will change in the following order:

→ _↔A↔B↔C↔...↔X↔Y↔Z↔0↔1↔2↔3↔...

→ _↔.↔<↔>↔\↔/↔*↔–↔+↔9↔...



4 **Press the SEL button after locating the desired character.**



The cursor moves to the next space on the right. Repeat steps 3 and 4 to enter the entire name. Up to eight characters can be used per name.

To each station you can assign one name.

You can use the supplied rotary commander or the optional wireless remote commander as well.

Notes
- If you press the SEL button when the eighth character (farthest right character) is flashing the cursor will move back to the first character (farthest left character).
- If you wish to put a blank space after a character, select the "_" (under-bar).

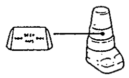
(MDX-400 ONLY)

5 Ⓐ **To return to the normal radio reception mode**

LIST

Press the LIST button for more than two seconds.

Ⓑ **To continue to put names onto the stations**



Tune in another station and repeat the procedure.

Changing a name

Tune in the station whose name you wish to change and repeat steps 2 to 5.

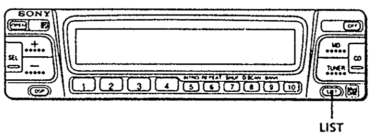
Erasing a name

1 **Tune in any station.**
2 **Press the LIST button for more than two seconds to enter the name edit mode.**
3 **Press the ▣ button while pressing preset number button 5.**
4 **Press the ▣ button to search for the names you wish to erase.**
5 **Press the ▣ button for more than two seconds.**
Repeat steps 4 and 5 if necessary.
6 **Press the LIST button for more than two seconds.**
The unit returns to the normal radio/TV reception mode.

Note
You can store up to 44* names. If you try to enter more names, the "Memory FULL" indication will appear on the display window, and you will not be able to register them. You can register more names after erasing some of the existing names.

Alternative method for erasing a name
You can erase a name by selecting eight"_"s (under-bars) . as described in step 3 of "Storing the Station Names in the memory of the Tuner" (page 28).

Displaying the Contents of the Preset Memory (MDX-400 ONLY)



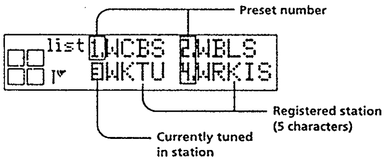
The contents of the preset memory stored on the currently received band is listed on the display window.

Displaying on the display window

Press the LIST button lightly during radio reception.

LIST

Example: When receiving the FM1 band



- Including the currently received preset station, the contents of preset numbers 1 to 4, or 5 to 8, or 9 and 10 will be displayed.
- If the name of a station is registered, that name will be displayed. If the name of a station is not registered, the frequency of that station will be displayed.

Turning off the display

Press the LIST button again.

Notes
- It may take some time before all indications appear on the display.
- In case of listening to a station which is not preset, it will not be displayed when you press the LIST button.

Overview of the RDS Function (MDX-400RDS ONLY)

What is RDS?

The RDS (Radio Data System) is a radio digital information system developed and introduced in 1987 by the EBU (European Broadcasting Union). Using the 57 kHz sub-carrier of FM broadcasting, the RDS enables you to receive a variety of information such as station names and traffic information. It also offers some useful functions such as automatic re-tuning of the best available signal carrying the chosen program. However, the availability of the RDS data is varied in different areas. Therefore, there may be cases where you may not be able to receive some of the following data.

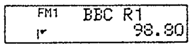
The RDS digital data includes the following:

PI	Program Identification	TA	Traffic Announcement
PS	Program Service Name	PTY	Program Type
AF	List of Alternative Frequencies	EON	Enhanced Other Networks
TP	Traffic Program	CT	Clock Time

The following functions are available with this unit using the RDS data. Refer to the marked pages for the operational instructions.

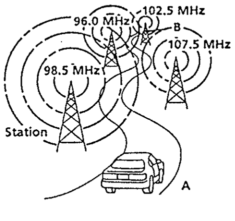
Station Service Name Display

This function displays the name of the station which is currently tuned in on the display window.



Automatic Re-tuning
— AF Function

This function automatically re-tunes to a station with a relatively stronger signal within the same broadcasting network using the PI and AF data.
The illustration on the right shows an example of a car passing through an area with four stations of the same broadcasting network between points A and B.
As the car moves on, the reception frequency of the station in the network changes from 98.5 MHz to 107.5 MHz then to 96.0 MHz and to 102.5 MHz.
By using the AF function, the driver will be able to keep listening to a program in the same broadcasting network without tuning in the station manually every time he enters a different frequency zone between points A and B.



(MDX-400RDS ONLY)

Traffic Announcement Reception
— TA Function

This function searches and stands by for a traffic information station using the TP and TA data. Using this function, the unit automatically searches the station and changes its mode to receive the traffic announcement when the broadcasting starts while you are listening to MiniDisc or CD play.

Enhanced Other Networks
— EON function

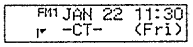
The EON function extends the faculty of the TA and TP function by enabling the unit to track other stations transmitting the EON data while it is tuned to a network station.

Note
Even if you are listening to a network station, the unit will automatically monitor local EON stations. When there is a local traffic announcement, the unit will automatically tune to that station and will re-tune to the previous station when the broadcast is over.

Setting the Clock Using the CT Function of the RDS

The CT function of the RDS enables the built-in clock in the unit to automatically synchronize with the CT data being received by the tuner section of the unit.

To activate the CT function, press the 7 button while pressing the SEL button. The "CT" indication appears on the display window.

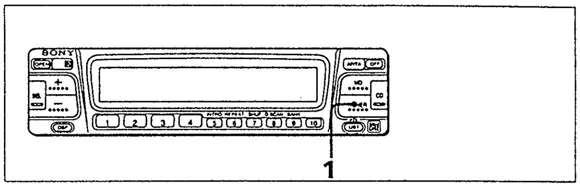


To cancel the function, press these buttons once more.

If the CT function is being activated while you adjust the clock manually, the clock will be automatically adjusted by the CT data the next time the unit receives it.

Notes
- There may be cases when the CT function may not be activated even if an RDS station is being received.
- Even if you use the CT function, adjust month, day and time beforehand.

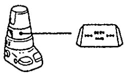
Station Service Name Display *(MDX-400RDS ONLY)*



1 Select the FM band.

TUNER
FM1
104.3

2 Tune in a desired station by using the Automatic Tuning or Manual Tuning.



If the unit is set in the station service name display mode and a station transmitting the RDS data is received, the name of that station will be displayed on the display window.

When the "——" indication appears on the display window in the station service name display mode:
The received station is not an RDS station.

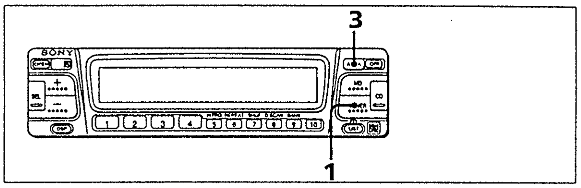
When the unit is in the frequency display mode and an RDS station is received:
The * display appears to indicate that an RDS station is received. To find out the name of the station, press the DSPL button to change the display mode.

Notes
- The RDS data can be received only on the FM band.
- The RDS functions of this unit will not be activated if the FM station being received is not transmitting the RDS data. It may also not work properly in areas where the RDS transmissions are in the experimental stage.

You can change the display mode by pressing the DSPL button
Each time you press the button, the display mode changes as follows:

Station service
name • Frequency
↕
Clock

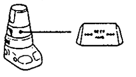
Automatic Re-tuning *— AF Function (MDX-400RDS ONLY)*



1 Select the FM band.

TUNER
FM1
104.3

2 Tune in a desired RDS station by using the Automatic Tuning or Manual Tuning (page 24).



3 Press the AF/TA button to get the "AF" indication.

AF/TA

The unit begins to search for an alternative station with a stronger signal in the same network from the AF data (List of Alternative Frequencies). If a stronger signal station is found, the unit re-tunes in that station. If no strong station is found, both the "NO AF" and the program station name indications flash.

Selecting REG ON or REG OFF

Press the AF/TA button for more than two seconds. The unit gives a confirmation beep. The "REG ON" or "REG OFF" indication appears on the display window. (There may be cases that this function may not be activated in some areas outside Germany, especially in the United Kingdom.)

Notes
- When the "AF" indication appears on the display window, only the RDS stations can be tuned in by the Automatic Tuning.
- If the tuned in RDS station is not transmitting the AF data, this function will not work.
- If you press the AF/TA button while the MW or LW (SW) band is being tuned in, the FM1 band will be automatically selected.

Regional Programs
Sometimes a national radio network broadcasts regional programs. With the RDS function, you can switch the "regional checking" function to on (REG ON) or off (REG OFF).
REG ON: The tuner remains tuned to the current regional program.
REG OFF: The tuner may re-tune to another regional program in the network.

Automatic Re-tuning *(MDX-400RDS ONLY)*

Network Stations Memory

When the unit stores an RDS station transmitting the AF data on a preset number button, it stores not only its frequency but also its PI, AF, PS and PTY data. The AF data carries the information of the list of the frequencies of the stations within the same broadcasting network. The unit will store the data in its memory whether the AF function is activated or not.

PI Sorting with the BTM Function

You can automatically store the RDS stations in order of their PI codes on the preset number buttons. If the AF function is activated when you initialize the BTM function , the RDS stations transmitting the PI data will be searched and stored in order on the preset number buttons. Likewise you can store the traffic information stations in the same way by the TA function before activating the BTM function.

Getting the Stored RDS Stations Tuned in from the Broadcasting Networks

Be sure to press the preset number buttons after pressing the AF/TA button to activate the AF function. The AF function will select a better signal station by re-tuning within the network stations. If you press the preset number buttons without activating the AF function, you will not be able to use this function. In this case, you will only get the individual stations which were tuned in on the previous occasion. The unit will not re-tune to the other stations in the network even if they are stored in the memory.

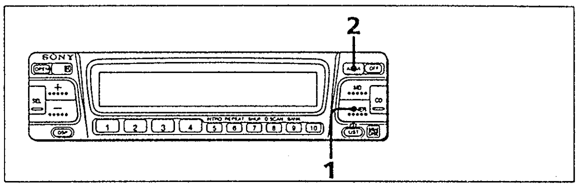
Local Link Function *— United Kingdom Only*

If you cannot receive the local station which you have previously stored on one of the preset number buttons or if you do not like the currently broadcast program on the stored local station, you can receive alternative local station(s) by pressing the same preset number button within five seconds of initial reception. If there are several receivable alternative local stations available in the vicinity, press the same preset number button several times until the desired station is received.

RDS Stations Transmitting the EON Data

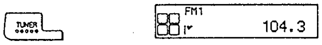
The EON data incorporates the AF data of other stations as well. Therefore, the unit can update the AF data of the preset stations and these stations will be tuned in the next time the preset number buttons are pressed.

Receiving Traffic Announcements *— TA Function (MDX-400RDS ONLY)*



Receiving a Traffic Information Station

1 Select the FM band.



2 Press the AF/TA button to get the "TA" indication.

AF/TA

The search for a traffic information station starts. When an RDS station transmitting the TP data is found, the search stops and the "TP" indication appears on the display window.

To search another RDS station transmitting traffic announcements
Turn the SEEK/AMS control on the rotary commander while the "TA" indication is still on the display window.

If the TA function is activated while the unit is receiving a station which is transmitting the EON data, the "TA", "TP" and "EON" indications will appear on the display window. In this case, if another station starts broadcasting a traffic announcement, the unit will automatically tune to that station. When the announcement is over, the unit will re-tune to the previous station.

To cancel the reception of traffic announcements by other stations

Press the AF/TA button until the "AF, TA-OFF" indication appears on the display window.

Notes
- Do not activate the TA function in an area where there is no traffic information broadcasting service available. If you do so, the unit will keep searching for it and other stations cannot be tuned in.
- If you activate the TA function while the MW or LW (SW) band is tuned in, the FM1 band will be automatically selected and the unit will start searching for a traffic information station.
- When the traffic information station cannot be received, after the "NO TP" indication flashes for approx. four seconds, the unit will begin to search automatically for a station whose traffic information can be received.

"TA" Indication
This indicates that the traffic announcement is on the air.

"TP" indication
This indicates that the currently tuned in RDS station offers a traffic information service.

"EON" Indication
This indicates that the unit is receiving the station transmitting the EON data.

Standing by for Traffic Announcements while Listening to MiniDisc or CD

Press the AF/TA button to get the "TA" indication during MiniDisc or CD play.

The MiniDisc or CD play continues while the unit searches for a traffic information station.

When a station is found:
The "TP" indication appears on the display window.

↓

When a traffic announcement starts:
The "TA" indication starts flashing. The MiniDisc or CD play stop and the traffic announcement is heard.

↓

When the announcement is over:
The MiniDisc or CD play resumes from where it was left off.

To cancel the stand-by mode
Press the AF/TA button to turn off the "TA" indication.

Changing the display to that of the frequency or station name during MiniDisc or CD play
Press the DSPL button on the rotary commander a few times. While the frequency or station service name is being displayed, the SEEK/AMS and PRESET/DISC controls on the rotary commander and the preset number buttons on the indash unit will function in the same way as they do during radio reception.

Traffic Announcements are Heard at the Preset Volume Level

When a traffic announcement starts, you can hear it at the preset volume level even if the volume control on the front panel has been turned down. (If you are listening to other sources with a higher volume level, the level will not change.) The preset volume level can be set in the following manner:

1 Select the FM band.

2 Adjust the volume to the desired level.

3 Press the preset number button 3 while pressing the button.
A beep tone will be heard when the setting has been completed.

PTY (Program Type) Data and the Emergency Announcement Reception

It is essential that the built-in micro computer has memorized the necessary RDS data in advance.

Press the PTY (LIST) button to get the "PTY" indication displayed on the display window during FM reception.

If an RDS station transmitting the PTY data is received, the name of the PTY data currently being received will be displayed on the display window. The PTY data names include "NEWS", "AFFAIRS", "INFO" etc. The PTY data name and the "PTY" indication will disappear within five seconds.

To receive another station broadcasting the same or different PTY data
Ⓐ If the "PTY" indication is being displayed:
Turn the SEEK/AMS control on the rotary commander.
Ⓑ If the "PTY" indication is not being displayed:
Press the PTY button to get the "PTY" indication displayed, then turn the SEEK/AMS control on the rotary commander.

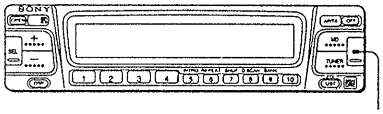
In case of an emergency, or in a situation where there may be danger from a natural disaster in the area, the RDS stations will transmit the PTY data information to warn drivers that they are in danger. The emergency data includes the character display and the interruption signal for automatically turning on the radio.

This data can be received while the AF or TA function is being activated.
If the unit receives the emergency data from an RDS station during MiniDisc or CD play, the "AF" indication on the display window will start flashing and MiniDisc or CD play will stop. The radio will be automatically turned on to receive the emergency announcement from the station.

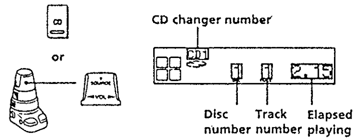
Notes
- The PTY function may not be activated immediately after the unit is used for the first time. This is because the unit has not yet memorized some of the RDS data necessary to utilize the PTY function. It is also possible that the stations in your vicinity are not transmitting the PTY data.
- With the PTY function on, the unit receives the available PTY data such as: NEWS, AFFAIRS, INFO, SPORT etc. If a specific data is not available during a search, the "NO DATA" indication will be displayed and if there is no PTY data available at all, the "NONE" indication will be displayed on the display window.

Listening to CD Play

(With the Optional CD changer(s) Connected)



Press the CD button.



CD play starts.

You can use the optional wireless remote commander as well.

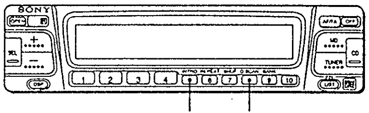
If the unit is set in the normal playing mode, after the end of a disc, the disc with the next number shown will be automatically played. If two or more CD changers are connected, after the end of the last disc, the first disc in the CD changer with the next number shown will be played. The order of the CD play can be rearranged by changing the playing modes. For details, see "Playing in Other Modes" (page 37).

Listening to the Discs in Another CD changer *(when two or more CD changers are connected)*

Press the CD button during CD play.

The CD changer number changes.

Playing in Other Modes



Listening to the first 10 seconds of each track — *Intro Scan Function**

Press the INTRO (5) button lightly during CD play.

The first 10 seconds of all the tracks on the currently selected disc are played in order. After the first disc is played with the intro scan function, the next disc is played. When two or more CD changers are connected, after the last disc is played, CD play moves on to the next CD changer.

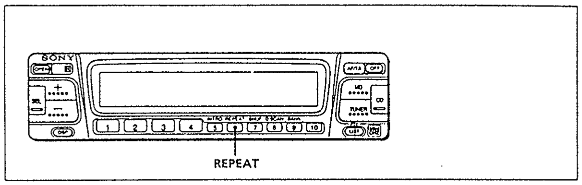
When you find the desired track, press the INTRO button again.
The unit returns to the normal CD play mode.

Searching for a desired disc in the CD changer(s) — Disc Scan Function

Press the D.SCAN (6) button lightly during CD play to get the "D.SCAN" indication.

The first 10 seconds of each disc in the CD changer(s) are played in order. When you find the desired disc, press the D.SCAN button again.
The unit returns to the normal CD play mode.

- * If the INTRO button is pressed during shuffle play, the first ten seconds of each track will be played randomly.



Playing a Disc Repeatedly

— Repeat Play Functions

Playing the currently selected track repeatedly — Track repeat

Press the 6 button lightly to get the "REP 1" indication during CD play.

Playing the currently selected disc repeatedly — Disc repeat

Press the 6 button lightly to get the "REP 2" indication during CD play.

When the last track on the currently selected disc is over, the CD play is repeated from the beginning of that disc.

Playing the discs in the currently selected CD changer repeatedly — CD changer repeat (when two or more CD changers are connected)

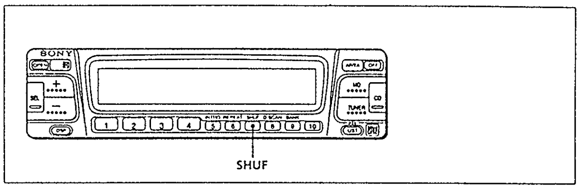
Press the 6 button lightly to get the "REP 3" indication during CD play.

When the last disc in the CD changer has been played, the CD play will be repeated from the first disc in the currently selected CD changer.

The function of the REPEAT button changes cyclically as follows:

REP 1
(Track repeat)
↓
REP 2
(Disc repeat)
↓
REP 3*
(CD changer repeat)
↓
Cancel (Normal CD play mode)

- CD changer repeat (REP 3) mode functions only when two or more CD changers are connected to the unit. When only one CD changer is connected, the "REP 3" indication will not be displayed. In this case, if you press the REPEAT button again while the "REP 2" indication is being displayed, the repeat mode will be canceled.



Playing the Discs Randomly

— Shuffle Play Functions

Playing the tracks on the currently selected disc randomly — Disc shuffle play

Press the 7 button lightly to get the "SHUF 1" indication during CD play.

Playing every track on every disc in the currently selected CD changer randomly — CD changer shuffle play

Press the 7 button lightly to get the "SHUF 2" indication during CD play.

Playing every track on every disc in all the CD changer(s) connected randomly — All shuffle play (when two or more CD changers are connected)

Press the 7 button lightly to get the "SHUF 3" indication during CD play.

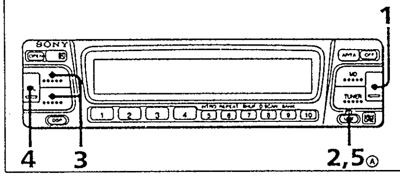
The function of the SHUF button changes cyclically as follows:

SHUF 1
(Disc shuffle)
↓
SHUF 2
(CD changer shuffle)
↓
SHUF 3*
(All shuffle)
↓
Cancel (Normal CD play mode)

- All-shuffle play (SHUF 3) mode functions only when two or more changers are connected to the unit. When only one changer is connected, the "SHUF 3" indication will not be displayed.
  In this case, if you press the SHUF button again while the "SHUF 2" indication is being displayed, the shuffle play will be canceled.

Displaying the Title of Each Disc

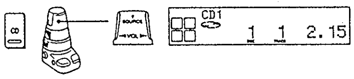
— Disc Memo Function



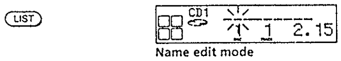
You can put a title of your own choice onto a disc (one title per disc). The title can be displayed on the display window while the disc is being located and played.

Putting Your Personalized Titles onto the Discs

1 Play the disc that you wish to title.



2 Press the LIST button for more than two seconds to enter the name edit mode.

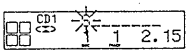


Name edit mode

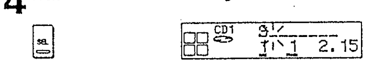
3 Press the + button to select the desired characters. Each time you press the + button, characters, symbols etc. change in the following order:

+ → _→A→B→C→...→X→Y→Z→0→1→2→3→...

– → _→.→<→>→\→/→*→–→+→9→...



4 Press the SEL button after locating the desired character.



The cursor moves to the next space on the right. Repeat steps 3 and 4 to enter the entire titles. Up to eight characters can be used per disc.

Note
This function works only when (a) CD changer(s) with custom file feature is (are) connected.

You can use the VOL control and the SEL button on the supplied rotary commander.

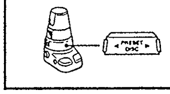
Notes
- If you press the SEL button when the eighth character (farthest right character) is flashing, the cursor goes back to the first character (farthest left character).
- If you wish to put a blank space after a character, select "_" (under-bar).

5 Ⓐ To return to the normal CD play mode

LIST

Press the LIST button for more than two seconds.

Ⓑ To continue to put titles onto the discs



If you press the CD button, the next CD changer will be selected (when two or more CD changers are connected)

Changing a title

Play the disc whose title you wish to change and repeat steps 2 to 5.

When you change the title, the PLAY/SKIP settings of the bank function or any setting of the DSP custom file function will not be erased at the same time.

Erasing a title

1 Select the CD changer and play any disc.
2 Press the LIST button for more than two seconds to enter the name edit mode.
3 Press the – button while pressing the preset number button 5.
4 Press the + button to select the title that you wish to erase.
5 Press the – button for more than two seconds.
Repeat step 4 and step 5 if necessary.
6 Press the LIST button for more than two seconds.
Now, the title and the PLAY/SKIP settings are erased.
The unit returns to the normal CD play mode.

If you erase the title, the PLAY/SKIP settings of the bank function and the settings of the DSP custom file function will be erased as well.

The alternative method to erase a title
You can erase a title by selecting eight "_"s (under-bars) as described in step 3 of "Putting Your Personalized Titles onto the Discs" (page 40).

Displaying the Title of Each Disc

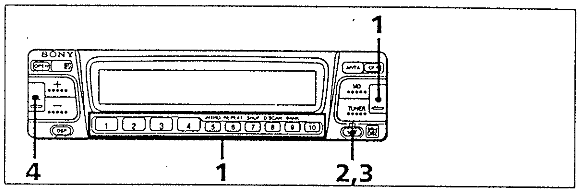
Custom file function

You can register the customized titles and the PLAY/SKIP settings on up to 110 discs* per CD changer (custom file function). These settings are stored in the memory of the CD changer. Therefore, even if you take a custom-filed disc out of the CD changer, you can still use the same CD changer. Furthermore, if your system has several CD changers connected, you can play that disc in another CD changer and still use the same custom file function, provided that the CD changers are inter-connected with the Bus (Unilink) cables.

* If you try to register more than 110 discs, the unit will display the "FULL" indication and will not accept the command for custom-filing. In this case, you will have to erase the memory of other discs before you can enter the new ones.

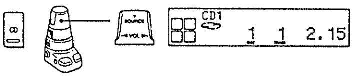
Playing Selected Tracks on a Disc

— Bank Function



Setting the Play and Skip Modes on the Discs

1 Play the disc to which you wish to set these modes.



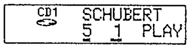
2 Press the LIST button for more than two seconds and put the titles onto the discs.

LIST

See page 40 for details about putting on a title. If the title has already been registered, go to step 3.

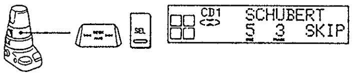
3 Press the LIST button lightly to enter the PLAY/SKIP edit mode.

LIST



PLAY/SKIP edit mode

4 Rotate the AMS control either left or right to select the track number you wish to skip and press the SEL button.



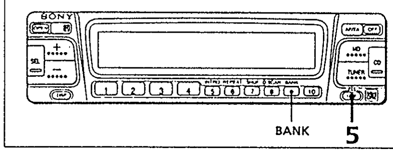
The indication changes from "PLAY" to "SKIP". If you wish to return to "PLAY", press the SEL button once more. Repeat the operation in this step to set either the "PLAY" or "SKIP" mode on all the tracks.

(continued on next page)

Notes
- This function works only when (a) CD changer (s) with custom file feature is (are) connected.
- You can use the supplied rotary commander on the optional wireless remote commander as well.

Notes
- When the title is not registered, you cannot enter the PLAY/SKIP edit mode even if you press the LIST button.
- You can set the "SKIP" mode only onto up to 24 tracks. If a disc has more than 24 tracks, you will not be able to set the "SKIP" mode on the tracks after the 24th track.
- You cannot set the "SKIP" mode onto all of the tracks on a disc.

Playing Selected Tracks on a Disc



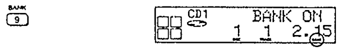
5 Press the LIST button for more than two seconds.

LIST

The unit returns to the normal CD play mode.

Playing with the Bank Function

Press the BANK button lightly during CD play.

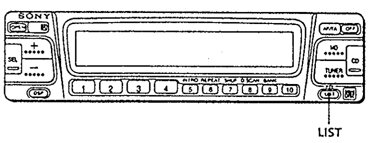


The "BANK" indication appears on the display window. The unit starts playing the tracks with "PLAY" settings which have been set by the PLAY/SKIP edit mode.
To return to the normal CD play mode, press the BANK button once more.

When the BANK button is pressed while pressing the SEL button, the unit starts playing the tracks with "SKIP" settings which have been set by the PLAY/SKIP edit mode.
To go back to the normal playing mode, press the BANK button again while pressing the SEL button.

Even when you play a disc with the PLAY/SKIP settings, the disc will not be played according to the settings if the "BANK" indication has not appeared on the display window.

Displaying Information stored on CD

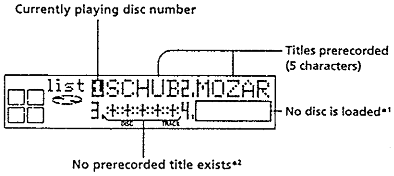


The titles of the discs currently loaded and other information stored on CD will be listed on the display window.

Displaying on the display window

Press the LIST button lightly during CD play.

Example: When the CD changer 1 is selected.


Currently playing disc number
Titles prerecorded (5 characters)
list
SCHUB2.MOZAR
3.*****4.
No disc is loaded*1
No prerecorded title exists*2

Including the currently played disc, the titles of discs 1 to 4, 5 to 8, or 9 and 10 will be displayed together.

*1 A blank space will be displayed if there is a disc number representing an empty slot in the disc magazine.
*2 If a title is prerecorded on the CD, that name will be displayed. If there is no prerecorded title, "*****" will be displayed. If the disc information has not been read yet, "?" will be displayed.

Turning off the display

Press the LIST button once more.

Note
It may take some time before all the indications appear on the display.

Overview of the DSP Function

(When the optional XDP-U50D is connected)

If you connect the optional XDP-U50D, you can add effects to the soundfield of the currently selected program source.

What is a Digital Signal Processor (DSP)?

The DSP can digitalize and process the audio signal with high speed thus enabling you to adjust the acoustic characteristics of the source sound without losing the sound quality.
With the DSP unit you can control the audio output and adjust the acoustic characteristics according to your preference.

The DSP edit mode

The DSP function includes following select/adjust modes:

- Surround (SUR) menu select/effect level control mode
- Listening position (LP) adjust mode
- Subwoofer (SUB) cut-off frequency/volume control mode
- Bass (BAS) adjust mode
- Treble (TRE) adjust mode
- Fader (FAD) adjust mode

Display window	Selected mode	Adjustment of
SUR	Surround menu	Effect Level
LP1	Listening position	Left, right, front and rear listening position
SUB	Cut-off frequency	Subwoofer volume
BAS	Bass turn-over frequency	Bass volume
TRE	Treble turn-over frequency	Treble volume

In addition, there are also following DSP-related functions:

- DSP custom file function
- Last sound memory function

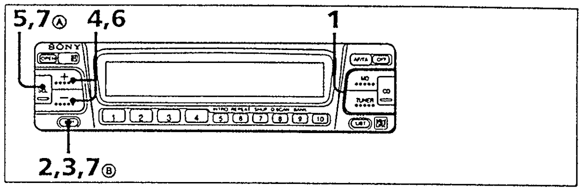
Adjust all modes as described on under "Basic Operations for Mode Adjustments".

Notes

- When the optional XDP-U50D and a graphic equalizer are connected, the reproduced sound may become distorted if the audio output signal of the graphic equalizer is boosted too much. In this case, press preset number button 8 while pressing the SEL button. This will reduce the volume, but the distorted sound can be suppressed. To cancel the mode, press these buttons once again (In case the optional XDP-U50D is connected by the optical cable, the volume will not get reduced even if you press preset number button 8 and the SEL button).
- To improve the efficiency of the listening position setting, the volume of the output sound from the rear speakers is lowered automatically.
- When the optional XDP-U50D is connected, the loudness function will not work.

Basic Operations for Mode Adjustments

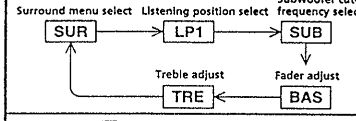
(Refer to this page when you read the instructions for a select/adjustment mode on another page)



1 Select a program source (MiniDisc, CD or radio) by pressing

2 Press the DSP button for more than one second to enter the DSP edit mode.

3 Select a mode by pressing the DSP button lightly. The modes change in following order:



4 Press the button to select an item from the mode menu.

5 Press the button lightly to enter the adjust mode.

6 Press the button to adjust the selected item.

7 Ⓐ Press the button lightly to continue with another adjustment.

Ⓑ Press the DSP button for more than one second to cancel the DSP edit mode.

To reset to the original factory-adjusted setting, press the SEL button for more than two seconds.

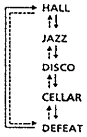
Selecting the Surround Mode

This unit features ten preset surround modes. You can select your desired surround mode to suit the source audio. These modes can simulate different soundfields so that you can enjoy the sensation of being close to the music source or being at a live concert etc.

Surround Menu

HALL	Concert hall
JAZZ	Jazz club
DISCO	Disco with thick walls
THEATER	Movie theater/cinema
PARK	Big open space
LIVE	Live concert
OPERA	Opera house
CHURCH	Church/chapel with a lot of reverberation
STADIUM	Open-air concert in a stadium
CELLAR	Cellar with a lot of reverberation
DEFEAT	The surround mode will be canceled. (The "DSP" indication will disappear.) In this condition you cannot adjust the effect level.

By pressing the button repeatedly, the surround modes will change as follows:



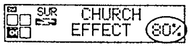
Operations

Perform steps 1 to 3 to enter the surround menu select mode.
Perform step 4 to select a surround mode.
Perform step 7 Ⓑ to cancel the surround menu select mode.

Adjusting the Effect Level

Balance and level of the reflections and of the reverberation of the selected surround mode can be adjusted.

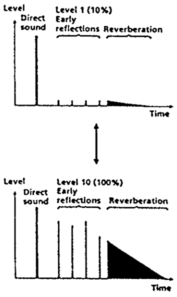
Perform steps 1 to 5 to enter the effect level adjust mode.
Perform step 6 to adjust the effect level.



You can adjust from 0 to 100% at 10% intervals. The higher the percentage, the more resembles the sound a live performance.

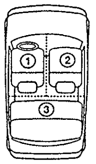
Perform step 7 Ⓑ to cancel the effect level adjust mode.
(Perform steps 7 Ⓐ and 4 to continue to adjust the effect level of another surround mode.)

Effect Level Adjustment Guide



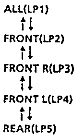
Selecting the Listening Position

The time it takes for the sound from the speakers to the listener can be selected.
Even in an imperfect listening environment such as inside a car, it is possible to simulate a natural soundfield so that a listener can feel as if he is in the center of the soundfield wherever he sits in the car.



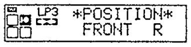
Display window		Center of soundfield
LP1	ALL	Normal setting (① + ② + ③)
LP2	FRONT	Front part (① + ②)
LP3	FRONT R	Right front (②)
LP4	FRONT L	Left front (①)
LP5	REAR	Rear part (③)

By pressing the button repeatedly, the listening position indication in the display window will change as follows:



Operations

Perform steps 1 to 3 to enter the listening position select mode.
Perform step 4 to select a listening position.



Perform step 7 Ⓑ to cancel the listening position select mode.

Setting the listening position more specifically

After selecting the listening position by performing steps 1 to 4, perform step 5 to enter the left/right balance adjust mode.
Perform step 6 to set the center of the soundfield.

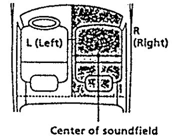
+	Center moves toward R (right).
−	Center moves toward L (left).

Perform step 5 again to enter the front/rear balance adjust mode.
Perform step 6 to set the center of the soundfield.

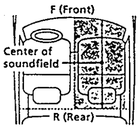
+	Center moves toward R (rear).
−	Center moves toward F (front).

Perform steps 7 Ⓑ to cancel the balance adjust mode.
(Perform steps 7 Ⓐ and 4 to continue to adjust another listening position.)

For example, adjustment of the left/right balance of "LP3"

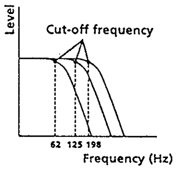


For example, adjustment of the front/rear balance of "LP3"



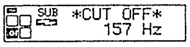
Adjusting the Cut-off Frequency and Volume of the Subwoofer(s)

To match the characteristics of the connected subwoofer(s). you can cut the unwanted high and middle frequency audio signal going into the subwoofer(s). The frequency at which the audio signal is cut off is called the cut-off frequency. By setting the cut-off frequency, the subwoofer(s) will output only low frequency signals so that a clearer sound image can be created.



Operations

Perform steps **1** to **3** to enter the cut-off frequency/volume control mode.
Perform step **4** to select the cut-off frequency.



Perform step **5** to enter the volume control mode, and perform step **6** to adjust the volume.

+	Subwoofer volume increases.
−	Subwoofer volume decreases.

At the lowest volume setting the subwoofer sound will be completely cut out (submute).

Perform step 7 Ⓑ to cancel the cut-off frequency/volume control mode.
(Perform steps 7 Ⓐ and **4** to continue to select another cut-off frequency.)

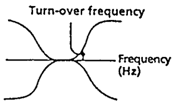
By pressing the − button repeatedly, the cut-off frequencies will change as follows:

62Hz
↑↓
78Hz
↑↓
99Hz
↑↓
125Hz*
↑↓
157Hz
↑↓
198Hz

* Factory-set frequency

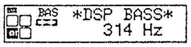
Adjusting the Bass and Treble

When the treble or bass frequency is changed, the original frequency is called the turn-over frequency. By selecting the bass or treble turn-over frequencies, you can control the volume thus matching the acoustic characteristics inside your car.

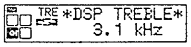


Operations

Perform steps **1** to **3** to enter the bass or treble adjust mode.
Perform step **4** to select the turn-over frequency.



Bass adjust mode



Treble adjust mode

Perform step **5** to enter the volume control mode.
Perform step **6** to control the volume.

+	Bass or treble volume is boosted.
−	Bass or treble volume is cut.

Perform step **7** Ⓑ to cancel the bass or treble adjust mode.
(Perform steps **7** Ⓐ and **4** to continue to select another turn-over frequency.)

By pressing the − button repeatedly, the turn-over frequencies in the bass adjust mode will change as follows:

198Hz
↑↓
250Hz
↑↓
314Hz*
↑↓
396Hz

By pressing the − button repeatedly, the turn-over frequencies in the treble adjust mode will change as follows:

2.0kHz
↑↓
3.1kHz*
↑↓
4.0kHz
↑↓
5.0kHz

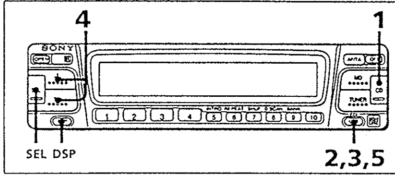
* Factory-set frequency

Fader (FAD) Adjustment

The fader can be adjusted separately for the DSP on mode and DSP off mode. Normally, with the DSP mode on, the volume of the output sound from the rear speakers is lowered automatically to improve the efficiency of the listening position setting. If you want to raise the rear speaker volume, adjust the fader.

Registering Surround Modes onto Discs

— DSP Custom File Function (With Optional-CD Changer(s) Connected)



Once you have registered the desired surround modes onto the discs, you can enjoy the same surround modes every time you play these discs.

Before registering the DSP custom file, make sure that you have titled the discs.

1 Play any disc.

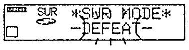
2 Press the LIST button for more than two seconds to enter the title edit mode.

LIST

If the disc has no title, "________" will appear in the display window. Refer to "Displaying the Title of Each Disc" on page 40, and put a title onto the disc.

3 Press the LIST button lightly twice to enter the DSP file registering mode.

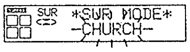
LIST



4 Press the − button to select the surround mode.

+ HALL → JAZZ → DISCO → ... → DEFEAT → HALL → JAZZ...

− CELLAR → STADIUM → CHURCH → ... → JAZZ → HALL → DEFEAT...



With one CD changer, you can register surround modes onto a maximum of 110 discs. See page 42 for more details.

Note
This function works only when (a) CD changer(s) with custom file feature is (are) connected.

5 Press the LIST button for more than two seconds.

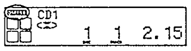
LIST

The unit enters the normal CD play mode.

Playing in the DSP Custom File Mode

Press the DSP button while holding down the SEL button during CD play.

SEL DSP



"DSP"* and "FILE" will appear in the display window.
To return to the normal play mode, press again the DSP button while holding down the SEL button.

Changing the registered surround mode

Play the disc whose surround mode you want to change, and repeat from step 2 on page 52 to step 5.

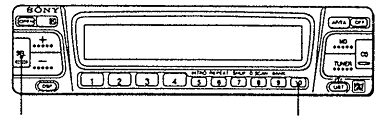
Erasing the registered surround mode

Select the DEFEAT mode in step 4.

When you press the DSP button during CD play in the DSP custom file mode, the surround mode will be canceled. However, if you change the disc, the new disc will be played in the surround mode registered in the DSP custom file.

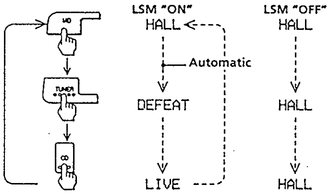
* If no surround mode is registered on a disc, the "DSP" indication will not appear.

Listening to each Program Source in its Registered Surround mode — *LSM (Last Sound Memory) Function*



LSM (Last sound memory) function
This function memorizes the last-selected surround mode of each program source. With this function, you can listen to the same source always in the same surround mode even after changing the program source or turning the unit off and on again.

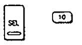
For example, if you listen in following order to a MiniDisc in the "HALL" mode → to the radio in the "DEFEAT" mode → to a CD in the "LIVE" mode and change then to Mini Disc play, the surround mode will automatically change to "HALL". If you change then to radio, the surround mode will change to "DEFEAT".

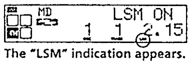


Even with the LSM function off, it is possible to change the surround mode manually.

Playback with the LSM Function

Press the preset number button 10, while holding down the SEL button.





The "LSM" indication appears.

To cancel the LSM function, press again the preset number button 10 while holding down the SEL button.

When you play a CD in the DSP custom file mode (see page 52), the various surround modes registered on the discs will change automatically even when the LSM function is on.

Maintenance

Fuse Replacement

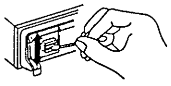
If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction.

Warning
Use only a fuse with the specified amperage. Use of a higher amperage fuse may cause serious damage.

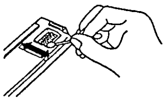
Cleaning the Connectors

The unit may not function properly if the connectors between the unit and the front panel are contaminated with dirt. In order to prevent this, open the front panel by pressing the OPEN button. Then detach the front panel by pulling it towards you while holding down the RELEASE button, and clean the connecters from time to time.

Clean the connectors with a cotton swab as illustrated. Be sure to clean them with a vertical motion. Never clean them horizontally as this could damage the connecting points.



Indash unit

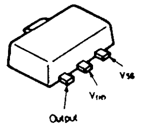


Back of the front panel

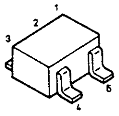
SECTION 2
DIAGRAMS

2-1. SEMICONDUCTOR LEAD LAYOUTS

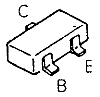
S-8054HN-CB


Output
Vin
Vss

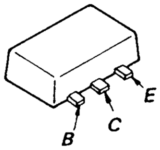
TC4S66F
TC7S66F



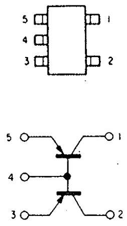
DTC114TK
DTC314TKH04
DTD113EK
UN2111
UN2112
UN2113
UN2211
UN2212
UN2213
UN5113
UN5212
2SA1162-G
2SC1623-L5L6
2SC2712-YG



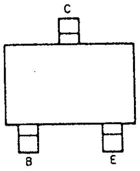
DTB113ZR
2SB1115A
2SD1622-S
2SD1664-QR
2SD1760F5-R



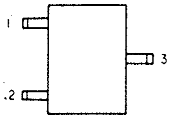
FMY1


5
4
3
1
2
5
4
3
1
2

UN2216

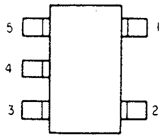


UN5211



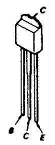
1 : Base
2 : Emitter
3 : Collector

XN1A312-TX

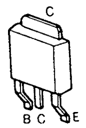


(1) Tr1 OUT
(2) Tr2 OUT
(3) Tr2 IN
(4) GND
(5) Tr1 IN

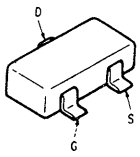
2SA1385-L



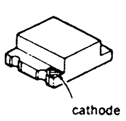
2SB1203FAS



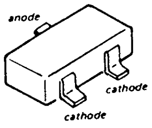
2SK1657-T1B



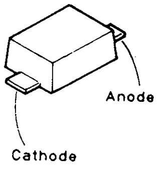
CL-155G/PG-D-TL



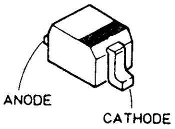
DAP202K


anode
cathode
cathode

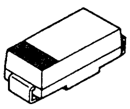
DTZ5.1B-TT11
MA8091-M
MA8110-L-TX


Anode
Cathode

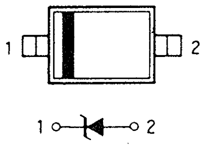
DTZ5.6B
MA8062-M
1SS318
1SS352
1SS355


ANODE
CATHODE

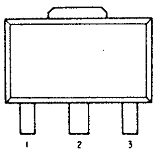
EC10DS2



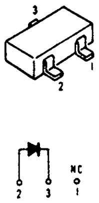
MA8047-M-TX
MA8160M



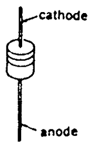
RB110C



RB411D



RD6.2ESB2


cathode
anode

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D1	D - 20	IC301	H - 8	Q302	I - 13
D2	E - 22	IC302	I - 5	Q501	C - 14
D3	F - 20	IC303	H - 9	Q502	D - 13
D4	F - 20	IC304	H - 9	Q503	D - 13
D6	F - 22	IC305	H - 17	Q601	F - 16
D7	E - 20	IC306	I - 6	Q701	D - 16
D501	D - 15	IC307	H - 6	Q702	F - 13
D502	D - 9	IC501	E - 10	Q703	F - 13
D503	D - 14	IC504	D - 10	Q704	C - 15
D504	D - 13	IC601	F - 9	Q705	C - 15
D505	D - 14	IC702	E - 8	Q706	D - 15
D506	D - 14			Q707	D - 15
D507	C - 13			Q708	D - 16
D508	C - 13	Q2	F - 6	Q709	E - 8
D551	C - 11	Q3	E - 20	Q750	C - 6
		Q4	E - 20		
D552	C - 10	Q5	E - 19	Q751	D - 6
D601	F - 9	Q6	E - 22	Q752	D - 6
D701	D - 6			Q753	C - 6
D702	H - 11	Q7	F - 18	Q754	D - 5
D703	C - 8	Q8	F - 22	Q755	D - 19
		Q13	F - 6		
D704	D - 16	Q14	G - 1	Q756	D - 5
D705	D - 16	Q15	G - 1	Q757	D - 19
D706	C - 15			Q758	C - 5
D707	D - 16	Q16	G - 17	Q759	D - 6
D708	C - 4	Q21	H - 4		
		Q102	J - 14		
D709	D - 17	Q103	I - 10		
D710	C - 7	Q104	I - 10		
D750	D - 18				
D751	D - 6	Q105	J - 17		
D752	D - 18	Q106	J - 19		
		Q107	J - 21		
D753	C - 18	Q202	J - 14		
		Q203	H - 10		
IC1	E - 5	Q204	H - 10		
IC2	G - 6	Q205	J - 18		
IC4	I - 21	Q206	J - 20		
IC5	G - 5	Q207	J - 22		
IC6	G - 5	Q301	I - 13		

Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated)

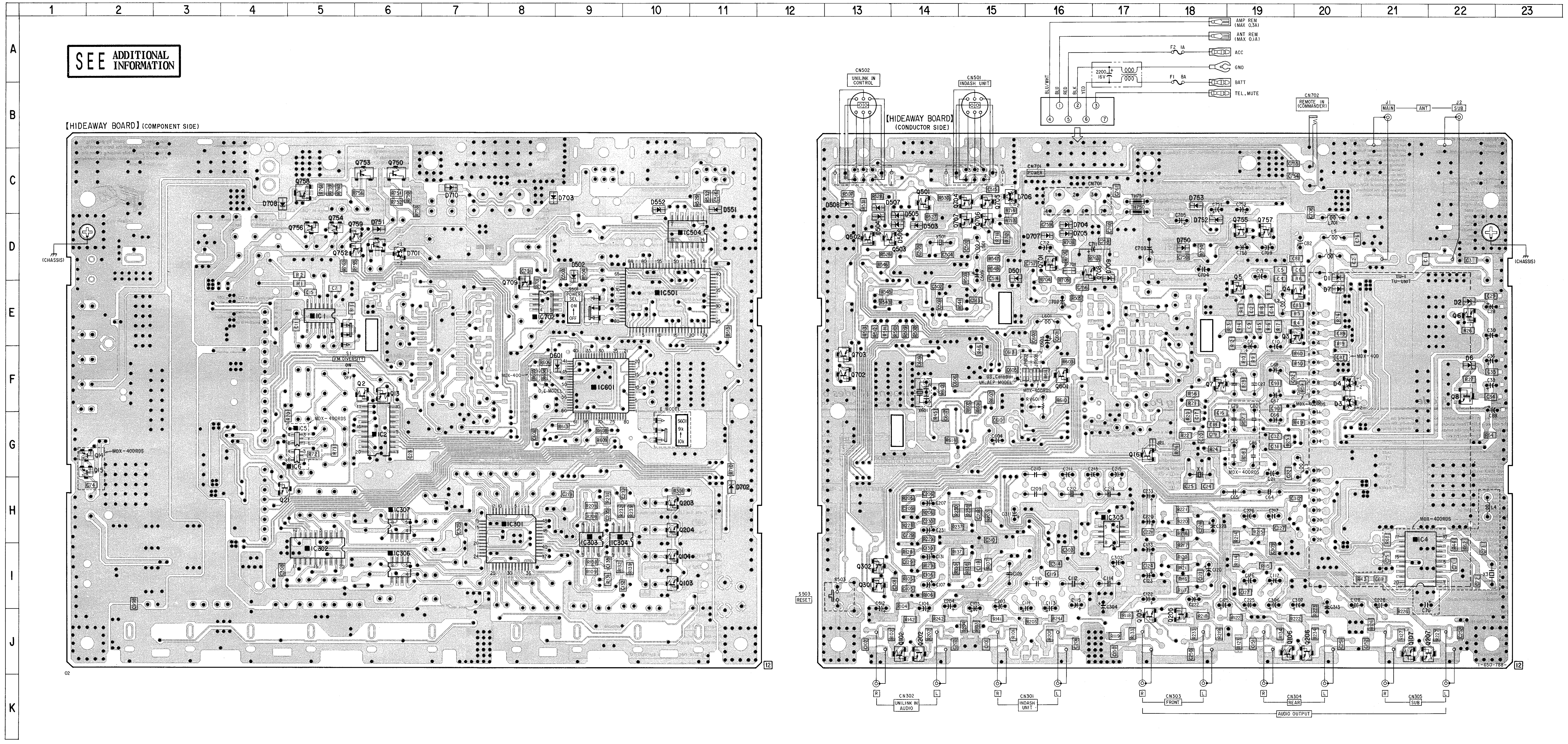
Caution :

Pattern face side : (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side : (Component side)	Parts on the parts face side seen from the parts face are indicated.

- G : German

2-2. PRINTED WIRING BOARDS – HIDEAWAY SECTION –

• Refer to page 24 for Semiconductor Lead Layouts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A
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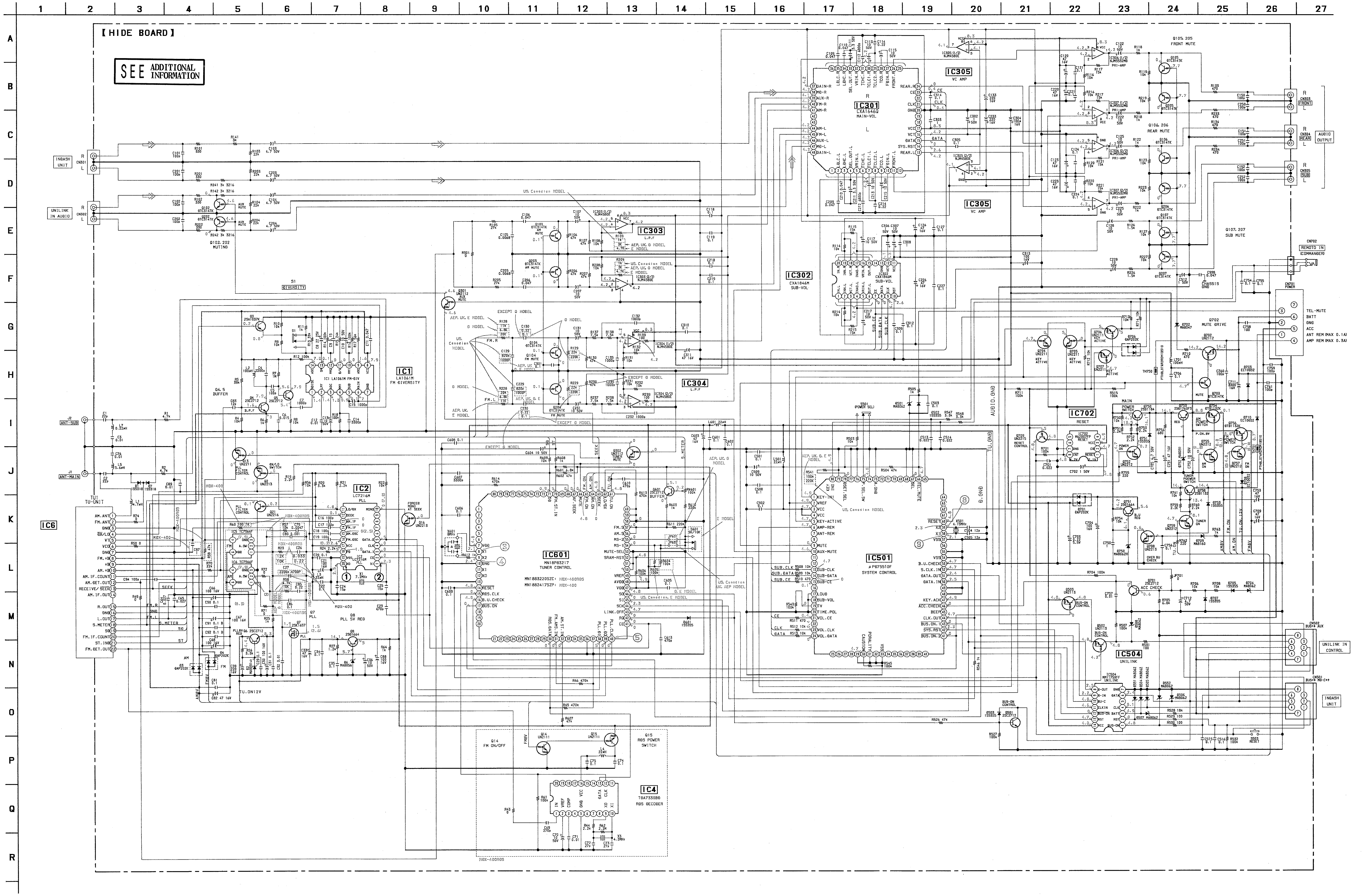
E
F
G
H
I
J
K
SEE ADDITIONAL INFORMATION
[HIDEAWAY BOARD] (COMPONENT SIDE)
[HIDEAWAY BOARD] (CONDUCTOR SIDE)
(CHASSIS)
CN502 UNILINK IN CONTROL
CN501 INDASH UNIT
CN702 REMOTE IN (COMMANDER)
AMP REM (MAX 0.3A)
ANT REM (MAX 0.1A)
F2 1A
ACC
GND
F1 8A
BATT
TEL. MUTE
J1 MAIN
ANT
J2 SUB
IC1
IC2
IC4
IC5
IC6
IC301
IC302
IC303
IC304
IC305
IC306
IC307
IC501
IC504
IC601
IC702
S503 RESET
CN302 UNILINK IN AUDIO
CN301 INDASH UNIT
CN303 FRONT
CN304 REAR
CN305 SUB
AUDIO OUTPUT
R
L
MDX-400RDS


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
A B C D E F G H I J K L M N O P Q R
【HIDE BOARD】
SEE ADDITIONAL INFORMATION
INDASH UNIT
CN301
UNILINK IN AUDIO
CN302
Q102, 202 MUTING
DIVERSITY
IC1 LA1061M FM DIVERSITY
Q4, 5 BUFFER
IC2 LC7216M PLL
Q8 PLL 5V REG
ANT-SUB
ANT-MAIN
TU1 TU-UNIT
IC6
IC601 MN188P3217 TUNER CONTROL
MN188322OSZC: MDX-400RDS
MN188241 75ZP: MDX-400
IC303 L.P.F
IC304 L.P.F
IC301 CXA1646Q MAIN-VOL
IC305 VC AMP
IC302 CXA1846M SUB-VOL
IC501 μPD75510F SYSTEM CONTROL
IC702 RESET
IC504 UNILINK
Q14 FM ON/OFF
Q15 RDS POWER SWITCH
IC4 TDA7330B0 RDS DECODER
MDX-400RDS
Q105, 205 FRONT MUTE
Q106, 206 REAR MUTE
Q107, 207 SUB MUTE
CN303 FRONT
CN304 REAR
CN305 SUB
AUDIO OUTPUT
CN702 REMOTE IN (COMMANDER)
CN701 POWER
TEL-MUTE
BATT
GND
ACC
ANT REM (MAX 0.1A)
AMP REM (MAX 0.3A)
Q702 MUTE DRIVE
CN502 BUS-IN AUX
UNILINK IN CONTROL
CN501 BUS-IN MD-C**
INDASH UNIT
US, Canadian MODEL
AEP, UK, G MODEL
E MODEL
EXCEPT G MODEL
G MODEL

Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply HIDE BOARD CN701 (BATT and ACC terminals).
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.

  no mark : FM/MD

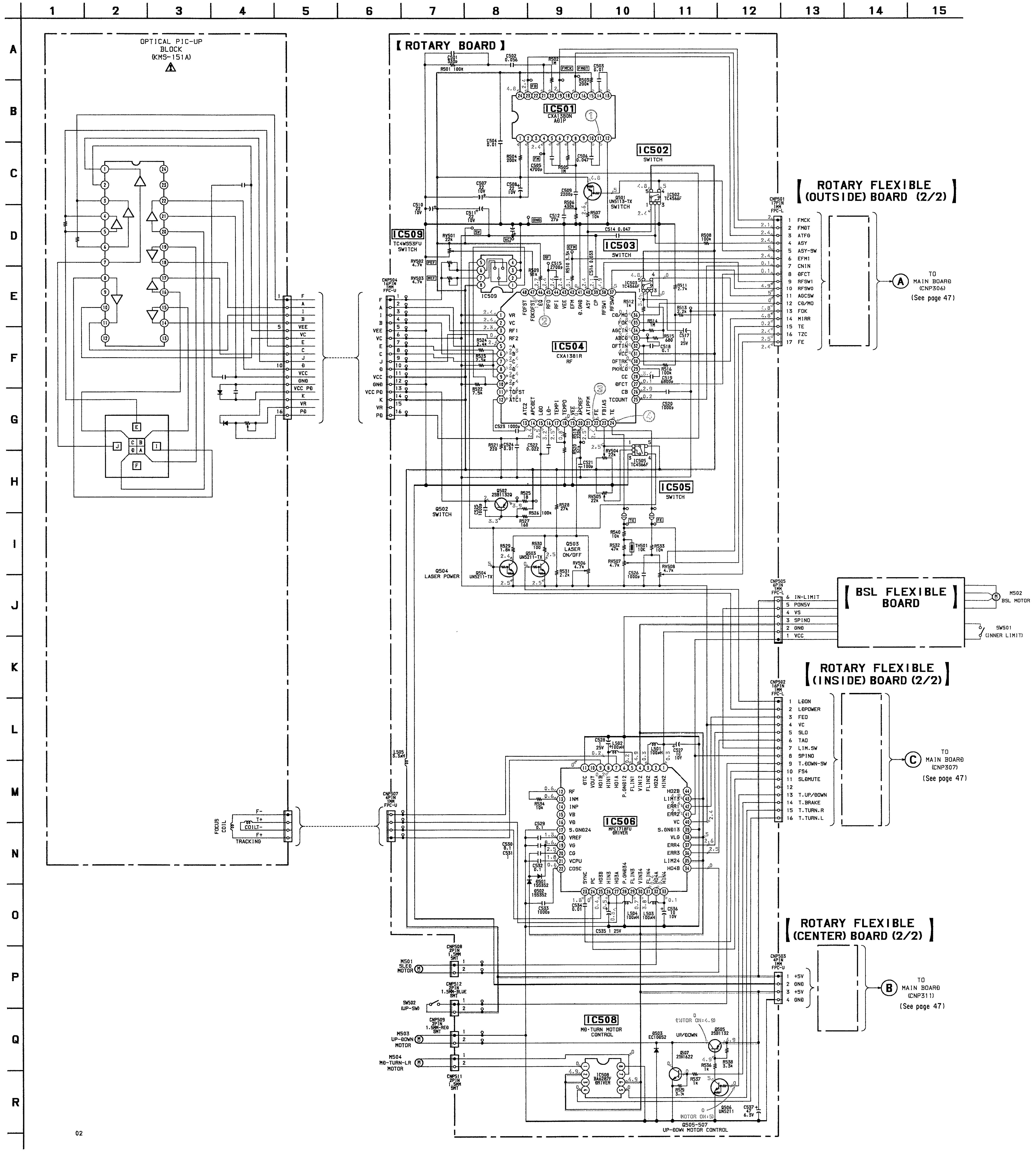
  (   ) : AM (MW/LW/SW)
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.

  ⇨ : FM

  ⇨» : MINI DISC
- G : German

2-4. SCHEMATIC DIAGRAM – ROTARY SECTION –

• Refer to page 39 for Waveforms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C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
OPTICAL PIC-UP BLOCK (KMS-151A)
FOCUS COIL
TRACKING
【ROTARY BOARD】
IC501 CXA1080N ABIP
IC502 SWITCH
IC503 SWITCH
IC504 CXA1381R RF
IC505 SWITCH
IC506 BRIVER
IC508 MO-TURN MOTOR CONTROL
IC509 TC4W53FU SWITCH
Q502 SWITCH
Q503 LASER ON/OFF
Q504 LASER POWER
Q505-507 UP-DOWN MOTOR CONTROL
M501 SLED MOTOR
SW502 (UP-SW)
M503 UP-DOWN MOTOR
M504 MO-TURN-LR MOTOR
【ROTARY FLEXIBLE (OUTSIDE) BOARD (2/2)】
CNP501 17PIN 1MM FPC-L
1 FMCK
2 FMDT
3 ATFG
4 ASY
5 ASY-SW
6 EFMI
7 CNIN
8 DFCT
9 RFSW1
10 RFSW0
11 AGCSW
12 CD/MO
13 FOK
14 MIRR
15 TE
16 TZC
17 FE
Ⓐ TO MAIN BOARD (CNP306) (See page 47)
CNP505 6PIN 1MM FPC-L
6 IN-LIMIT
5 PON5V
4 VS
3 SPINO
2 GND
1 VCC
【BSL FLEXIBLE BOARD】
M502 BSL MOTOR
SW501 (INNER LIMIT)
【ROTARY FLEXIBLE (INSIDE) BOARD (2/2)】
CNP502 16PIN 1MM FPC-L
1 LDON
2 LDPOWER
3 FEO
4 VC
5 SLO
6 TAO
7 LIM.SW
8 SPINO
9 T.DOWN-SW
10 FS4
11 SLDMUTE
12
13 T.UP/DOWN
14 T.BRAKE
15 T.TURN.R
16 T.TURN.L
Ⓒ TO MAIN BOARD (CNP307) (See page 47)
【ROTARY FLEXIBLE (CENTER) BOARD (2/2)】
CNP503 4PIN 1MM FPC-U
1 +5V
2 GND
3 +5V
4 GND
Ⓑ TO MAIN BOARD (CNP311) (See page 47)
02

Note :

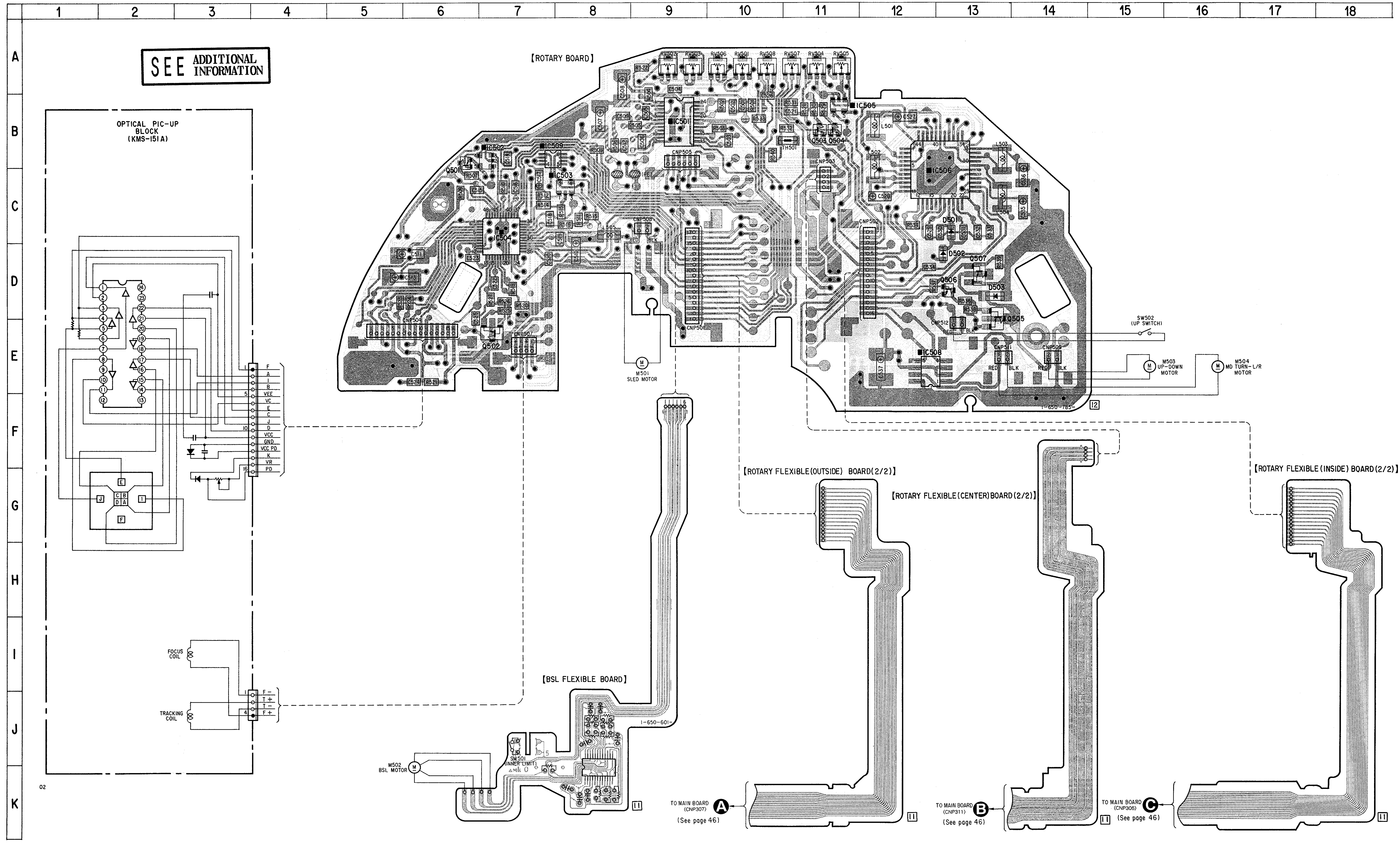
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : B+ Line
- ▭ : adjustment for repair.
- Power voltage is dc 14.4V and fed with regulated dc power supply HIDE BOARD CN701 (BATT and ACC terminals).
- Voltage and waveforms are dc with respect to ground under no-signal conditions.

  no mark : MD (PLAY)
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.

  ⇨ : MINI DISC

2-5. PRINTED WIRING BOARDS – ROTARY SECTION –

• Refer to page 24 for Semiconductor Lead Layouts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C
D
E
F
G
H
I
J
K
SEE ADDITIONAL INFORMATION
[ROTARY BOARD]
OPTICAL PIC-UP BLOCK (KMS-151A)
IC501
IC502
IC503
IC505
IC506
M501 SLED MOTOR
SW502 (UP SWITCH)
M503 UP-DOWN MOTOR
M504 MD TURN-L/R MOTOR
FOCUS COIL
TRACKING COIL
[ROTARY FLEXIBLE(OUTSIDE) BOARD(2/2)]
[ROTARY FLEXIBLE(CENTER)BOARD(2/2)]
[ROTARY FLEXIBLE(INSIDE) BOARD(2/2)]
[BSL FLEXIBLE BOARD]
M502 BSL MOTOR
TO MAIN BOARD (CNP307) (See page 46)
A
TO MAIN BOARD (CNP311) (See page 46)
B
TO MAIN BOARD (CNP308) (See page 46)
C
11

• SEMICONDUCTOR LOCATION

Ref. No.	Location
D501	C – 13
D502	D – 13
D503	D – 13
IC501	B – 9
IC502	B – 7
IC503	C – 8
IC504	C – 7
IC505	B – 11
IC506	C – 13
IC508	E – 12
IC509	B – 7
Q501	B – 6
Q502	E – 7
Q503	B – 11
Q504	B – 11
Q505	D – 13
Q506	D – 13
Q507	D – 13

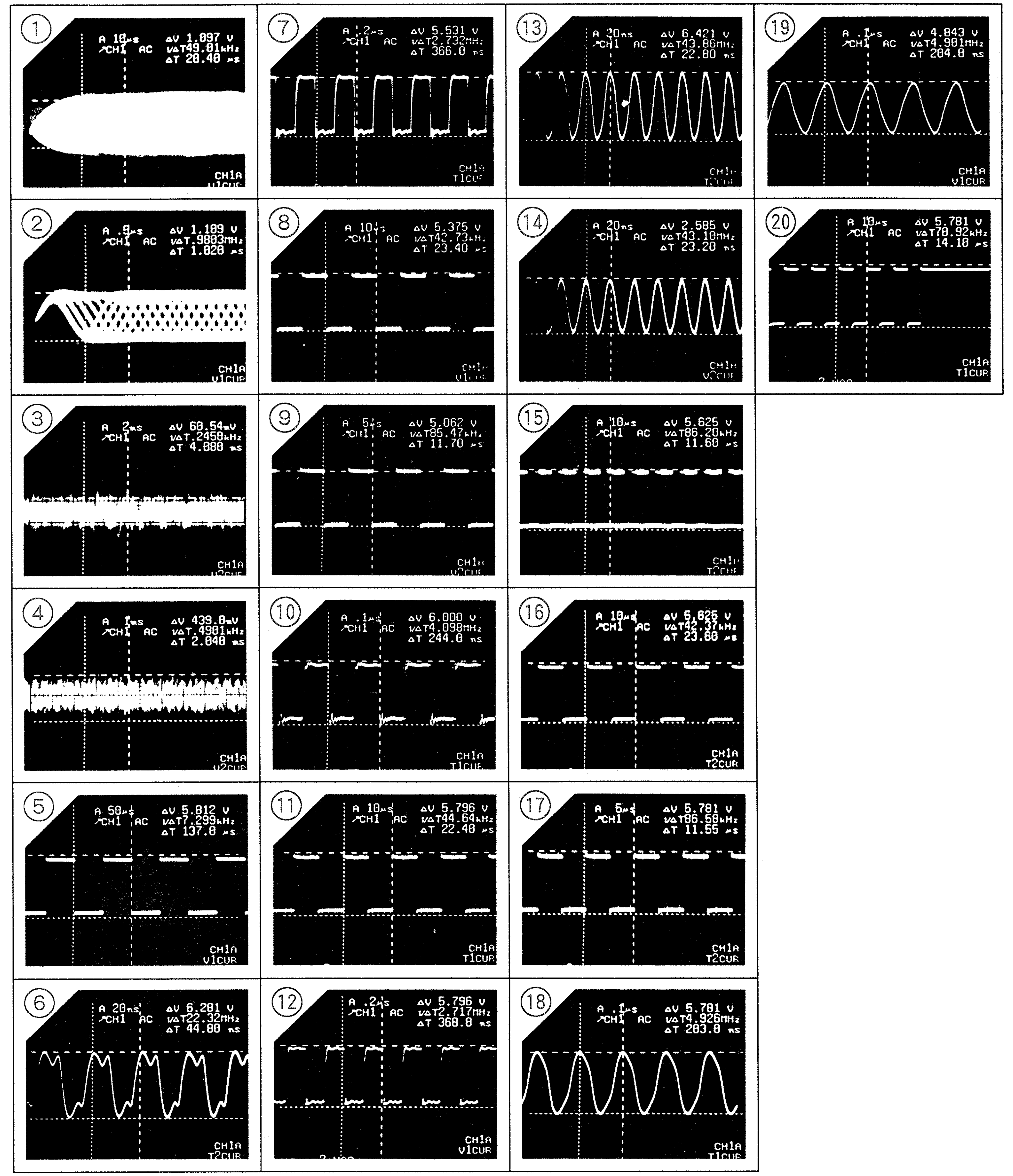
Note:

- O— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ░ : Pattern of the rear side.
- ▒ : Pattern from the side which enables seeing.
  (The other layers' patterns are not indicated)

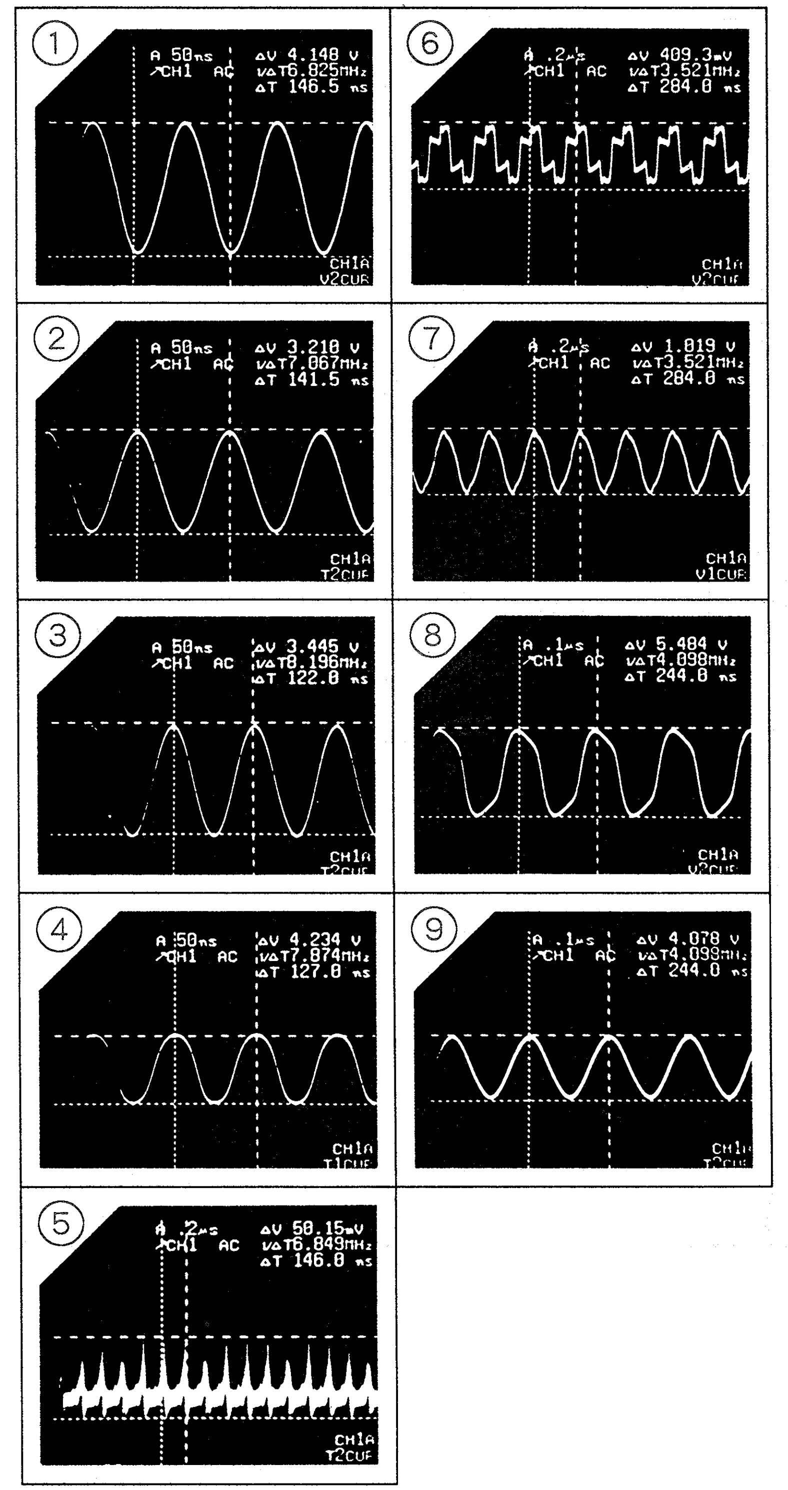
Caution :

Pattern face side : (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side : (Component side)	Parts on the parts face side seen from the parts face are indicated.

• WAVEFORMS – ROTARY/MAIN SECTION –



• WAVEFORMS – HIDEAWAY SECTION –



SEE ADDITIONAL INFORMATION

- **SEMICONDUCTOR LOCATION**

Ref. No.	Location	Ref. No.	Location
D303	G - 24	IC309	H - 24
D304	G - 24	IC310	J - 18
D305	G - 24	IC311	I - 22
D306	G - 25	IC312	I - 14
D307	H - 25	IC313	I - 15
D308	G - 23	IC314	E - 22
D309	H - 23	IC315	H - 15
D310	K - 19		
D311	K - 17		
D312	H - 22	Q101	E - 20
		Q201	D - 20
D313	I - 14	Q301	D - 17
D314	C - 21	Q302	G - 24
D315	C - 21	Q303	H - 25
D316	B - 22		
D317	D - 21	Q304	I - 21
		Q305	I - 20
D318	E - 20	Q306	J - 21
D319	E - 23	Q307	C - 22
D320	G - 24	Q309	C - 22
D321	H - 24		
D324	K - 24	Q310	B - 22
		Q311	A - 22
D330	K - 16	Q312	A - 23
D331	J - 16	Q313	B - 22
D332	K - 16	Q314	C - 22
D333	K - 16		
D334	K - 16	Q315	G - 23
		Q316	C - 21
D335	K - 16	Q317	D - 21
D336	K - 16	Q318	E - 21
		Q320	E - 22
IC101	E - 19	Q322	D - 23
IC201	D - 19	Q323	H - 23
IC301	D - 17	Q324	H - 23
IC302	D - 15	Q325	J - 16
IC303	E - 16	Q326	G - 20
IC304	F - 14	Q327	J - 16
IC305	F - 16	Q328	J - 16
IC306	F - 17	Q329	G - 19
IC307	G - 17	Q330	K - 24
IC308	G - 24	Q331	K - 25

Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ░ : Pattern of the rear side.
- ▒ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)

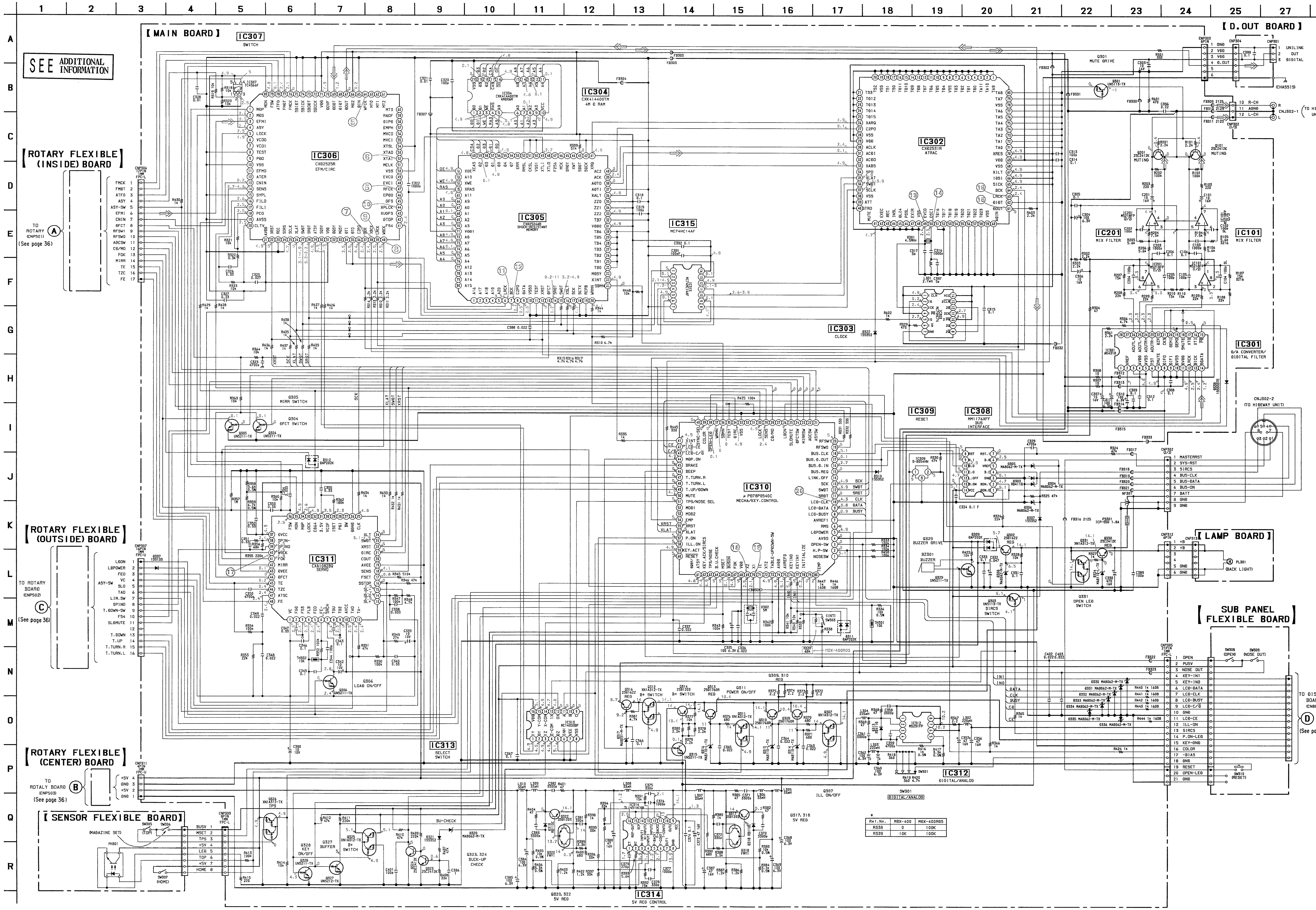
Caution :

Pattern face side : (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side : (Component side)	Parts on the parts face side seen from the parts face are indicated.

2-6. PRINTED WIRING BOARDS – MAIN SECTION –

- Refer to page 24 for Semiconductor Lead Layouts

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
A B C D E F G H I J K
【MAIN BOARD】 (SIDE B)
【MAIN BOARD】 (SIDE A)
【D.OUT BOARD】
CNP301
UNILINK OUT DIGITAL
CNP303
CNP304
C399
1-650-786-
(CHASSIS)
IC301
IC302
IC303
IC304
IC305
IC306
IC307
IC308
IC309
IC310
IC311
IC312
IC313
IC201
IC101
Q301
Q201
Q101
CNJ302 (1/2)
L
R
TO HIDEAWAY UNIT
INDASH UNIT
CNJ302 (2/2)
YEL
GRN
BLU
BLK
ORG
VIO
BRN
RED
【SENSOR FLEXIBLE BOARD (1/2)】
【SENSOR FLEXIBLE BOARD (2/2)】
SW305 (MAGAZINE SET)
SW306 (TOP)
SW307 (HOME)
PH301
1-650-600-
【ROTARY FLEXIBLE (INSIDE) BOARD (1/2)】
1-650-789-
TO ROTARY BOARD (CNP502)
(See page 38)
【ROTARY FLEXIBLE (CENTER) BOARD (1/2)】
1-650-144-
TO ROTARY BOARD (CNP503)
(See page 38)
【ROTARY FLEXIBLE (OUTSIDE) BOARD (1/2)】
1-650-790-
TO ROTARY BOARD (CNP501)
(See page 38)
【LAMP BOARD】
CNP313
PL301 (BACK LIGHT)
1-651-110-
【SUB PANEL FLEXIBLE BOARD】
SW308 (OPEN)
SW309 (NOSE-OUT)
SW310 (RESET)
1-650-599-
TO DISPLAY BOARD
(See page 52)
1-650-784-
F
E
C
B
A
D


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 27
A B C D E F G H I J K L M N O P Q R
SEE ADDITIONAL INFORMATION
[MAIN BOARD]
IC307 SWITCH
IC306 CXD2525R EFM/CIRC
IC304 CXK4144OOTM 4M D RAM
IC305 CXD2514AR SHOCK-RESISTANT MEMORY
IC315 MC74HC14AF
IC302 CXD2531R ATRAC
IC303 CLOCK
IC201 MIX FILTER
IC101 MIX FILTER
IC301 D/A CONVERTER/DIGITAL FILTER
IC309 RESET
IC308 MM1176XFF BUS INTERFACE
IC310 μ PD78P054GC MECHA/KEY.CONTROL
IC311 CXA1082BQ SERVO
IC313 SELECT SWITCH
IC314 5V REG CONTROL
IC312 DIGITAL/ANALOG
SW301 DIGITAL/ANALOG
[D.OUT BOARD]
(TO HIGEWAY UNIT)
CNJ302-2 (TO HIGEWAY UNIT)
[ROTARY FLEXIBLE (INSIDE) BOARD]
TO ROTARY (CNP501) (See page 36)
[ROTARY FLEXIBLE (OUTSIDE) BOARD]
TO ROTARY BOARD (CNP502) (See page 36)
[ROTARY FLEXIBLE (CENTER) BOARD]
TO ROTALY BOARD (CNP503) (See page 36)
[SENSOR FLEXIBLE BOARD]
[LAMP BOARD]
PL301 (BACK LIGHT)
[SUB PANEL FLEXIBLE BOARD]
TO DISPLAY BOARD (CN801) (See page 55)
Q301 MUTE DRIVE
Q201 MUTING
Q101 MUTING
Q305 MIRR SWITCH
Q304 DFCT SWITCH
Q306 LOAD ON/OFF
Q329 BUZZER DRIVE
BZ301 BUZZER
Q331 OPEN LED SWITCH
Q303 SIRCS SWITCH
Q309, 310 REG
Q307 ILL ON/OFF
Q317, 318 5V REG
Q320, 322 5V REG
Q323, 324 BUCK-UP CHECK
Q326 TPS
Q328 KEY ON/OFF
Q327 BUFFER
Q325 B+ SWITCH
M-DX-400RDS

*

Ref.No.	MDX-400	MDX-400RDS
R338	0	100K
R339	10K	100K

Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▬ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply HIDE BOARD CN701 (BATT and ACC terminals).
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : MD (PLAY)
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : MINI DISC

SEE ADDITIONAL INFORMATION

2-8. PRINTED WIRING BOARDS – DISPLAY SECTION –

- Refer to page 24 for Semiconductor Lead Layouts

SEMICONDUCTOR LOCATION

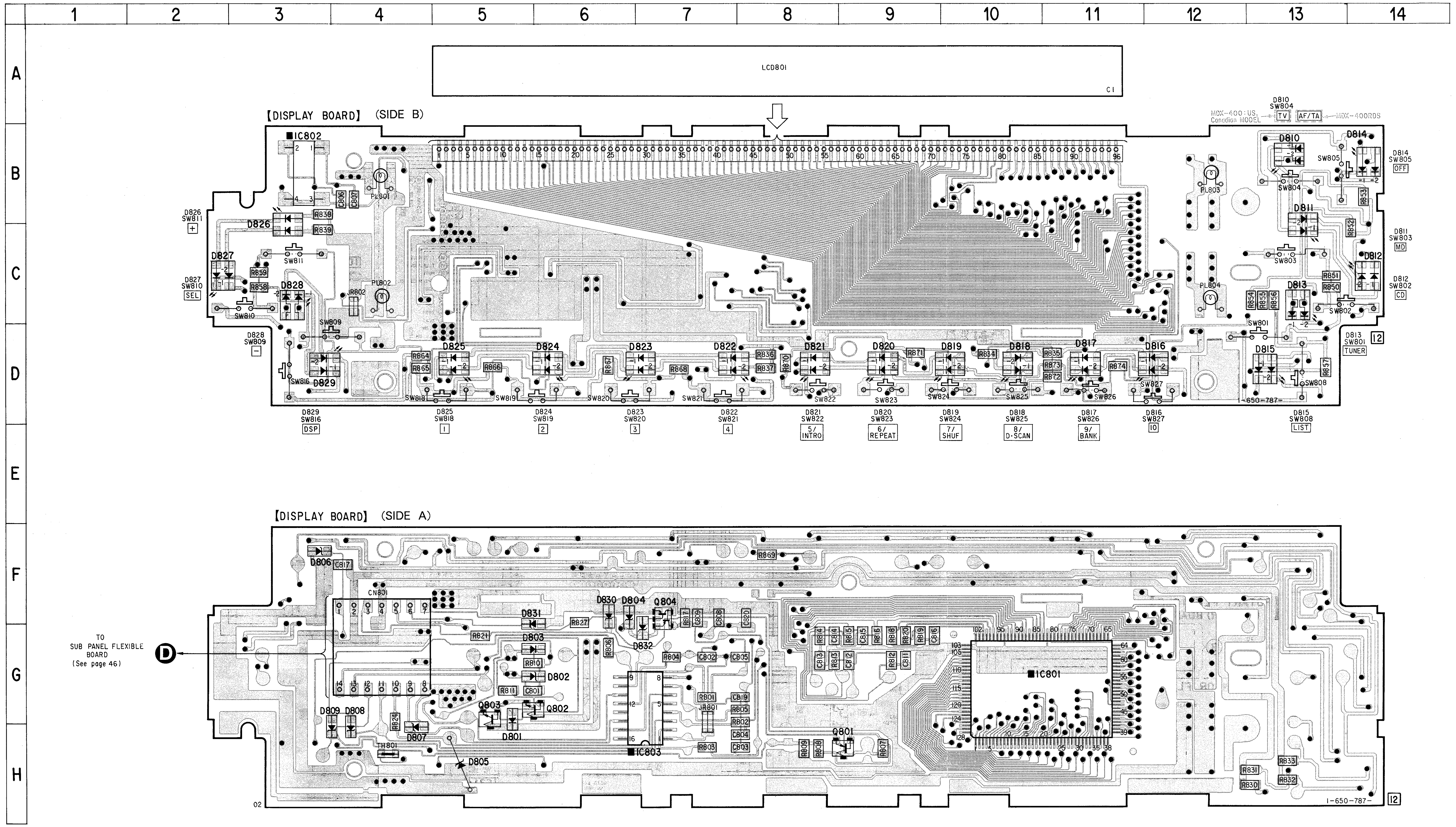
Ref. No.	Location
D801	H - 5
D802	G - 5
D803	G - 5
D804	F - 6
D805	H - 5
D806	F - 3
D807	H - 4
D808	H - 4
D809	H - 3
D810	B - 13
D811	C - 13
D812	C - 14
D813	C - 13
D814	B - 14
D815	D - 13
D816	D - 12
D817	D - 11
D818	D - 10
D819	D - 10
D820	D - 9
D821	D - 8
D822	D - 7
D823	D - 7
D824	D - 6
D825	D - 5
D826	C - 3
D827	C - 2
D828	C - 3
D830	F - 6
D831	F - 5
D832	G - 7
D829	D - 3
IC801	G - 10
IC802	B - 3
IC803	G - 7
Q801	H - 9
Q802	G - 5
Q803	G - 5
Q804	F - 7

Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▒ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)

Caution :

Pattern face side : (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side : (Component side)	Parts on the parts face side seen from the parts face are indicated.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A
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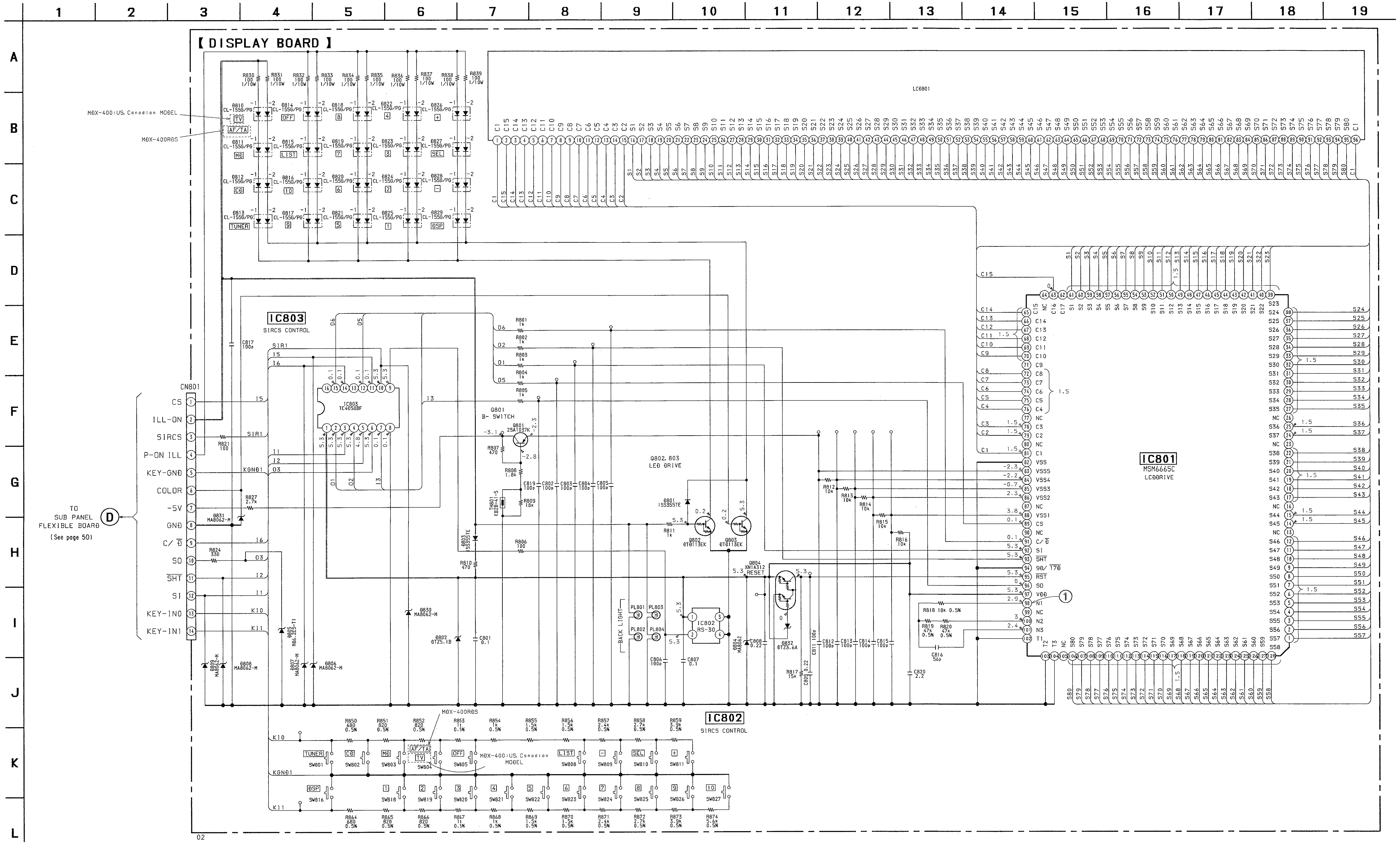
C
D
E
F
G
H
LCD801
C1
【DISPLAY BOARD】 (SIDE B)
■IC802
PL801
PL802
PL803
PL804
D826 SW811 +
D827 SW810 SEL
D828 SW809 −
D829 SW816 DSP
D825 SW818 1
D824 SW819 2
D823 SW820 3
D822 SW821 4
D821 SW822 5/ INTRO
D820 SW823 6/ REPEAT
D819 SW824 7/ SHUF
D818 SW825 8/ D-SCAN
D817 SW826 9/ BANK
D816 SW827 10
D815 SW808 LIST
D810 SW804 TV AF/TA
MDX-400: US, Canadian MODEL
MDX-400RDS
D814 SW805 OFF
D811 SW803 MD
D812 SW802 CD
D813 SW801 TUNER
1-650-787-
12
【DISPLAY BOARD】 (SIDE A)
TO SUB PANEL FLEXIBLE BOARD (See page 46)
D
CN801
■IC801
■IC803
Q801
Q802
Q803
Q804
D801
D802
D803
D804
D805
D806
D807
D808
D809
D830
D831
D832
1-650-787-
12

2-9. SCHEMATIC DIAGRAM – DISPLAY SECTION –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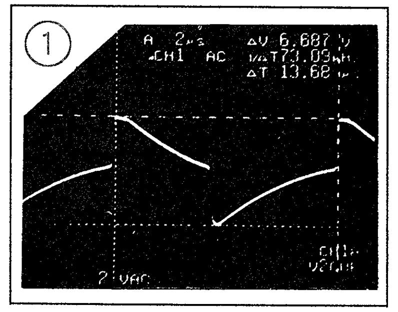
E
F
G
H
I
J
K
L
【DISPLAY BOARD】
MDX-400:US, Canadian MODEL
MDX-400RDS
LCD801
IC803
SIRCS CONTROL
IC803
TC4050BF
C817 100p
CN801
CS
ILL-ON
SIRCS
P-ON ILL
KEY-GND
COLOR
-5V
GND
C/ D̄
SO
SHT
SI
KEY-IN0
KEY-IN1
TO SUB PANEL FLEXIBLE BOARD
D
(See page 50)
R821 100
R824 330
R827 2.7k
D831 MA8062-M
D805 RD6.2ES-T1
D806 MA8062-M
D807 MA8062-M
D808 MA8062-M
D809 MA8062-M
Q801
B+ SWITCH
Q801 2SA1037K
Q802, 803
LED DRIVE
Q802 DTD113EK
Q803 DTD113EK
D801 1SS355TE
Q804 XN1A312
RESET
D830 MA8062-M
D802 DTZ5.1B
D832 DTZ3.6A
IC802 RS-30
BACK LIGHT
PL801
PL802
PL803
PL804
IC801
MSM6665C
LCD DRIVE
VDD
①
IC802
SIRCS CONTROL
K10
KGND1
K11
TUNER SW801
CD SW802
MD SW803
AF/TA
TV SW804
OFF SW805
LIST SW808
− SW809
SEL SW810
+ SW811
DSP SW816
1 SW818
2 SW819
3 SW820
4 SW821
5 SW822
6 SW823
7 SW824
8 SW825
9 SW826
10 SW827
R850 680 0.5%
R851 820 0.5%
R852 820 0.5%
R853 1k 0.5%
R854 1k 0.5%
R855 1.5k 0.5%
R856 1.5k 0.5%
R857 2.4k 0.5%
R858 2.7k 0.5%
R859 3.9k 0.5%
R864 680 0.5%
R865 820 0.5%
R866 820 0.5%
R867 1k 0.5%
R868 1k 0.5%
R869 1.5k 0.5%
R870 1.5k 0.5%
R871 2.4k 0.5%
R872 2.7k 0.5%
R873 3.9k 0.5%
R874 5.6k 0.5%

- **WAVEFORM – DISPLAY SECTION –**

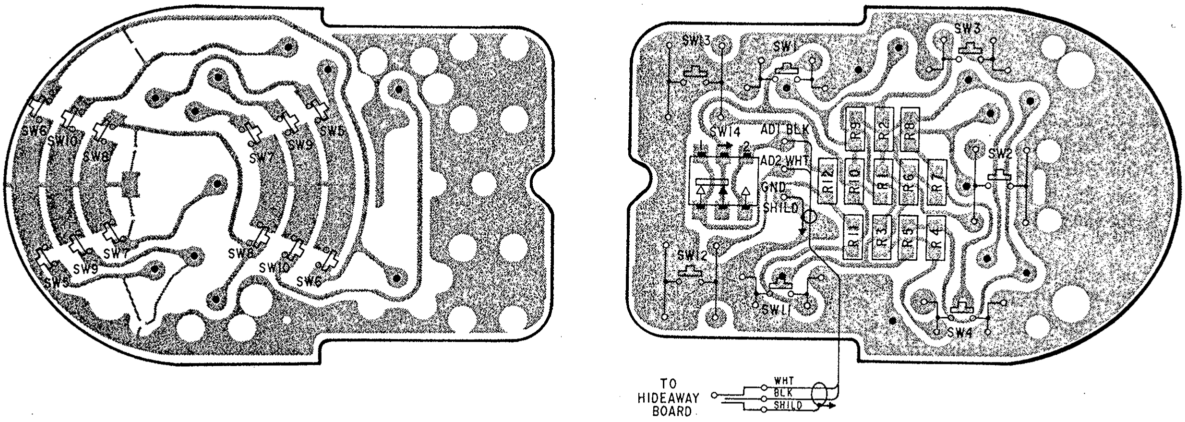


Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▬ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply HIDE BOARD CN701 (BATT and ACC terminals).
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : MD (PLAY)
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

2-10. PRINTED WIRING BOARDS – ROTARY COMMNDER SECTION (RM-X38) –

(COMPONENT SIDE) (CONDUCTOR SIDE)


SW6
SW10
SW8
SW7
SW9
SW5
SW7
SW9
SW5
SW8
SW10
SW6
SW13
SW1
SW3
SW14
ADJ BLK
1
2
AD2 WHT
GND
SHILD
R9
R2
R8
R12
R10
R1
R6
R7
SW2
R11
R3
R5
R4
SW12
SW11
SW4
TO HIDEAWAY BOARD
WHT
BLK
SHILD

Note on Schematic Diagram :

- All resistors are in Ω and ¼W or less unless otherwise specified.

Note on Printed Wiring Boards:

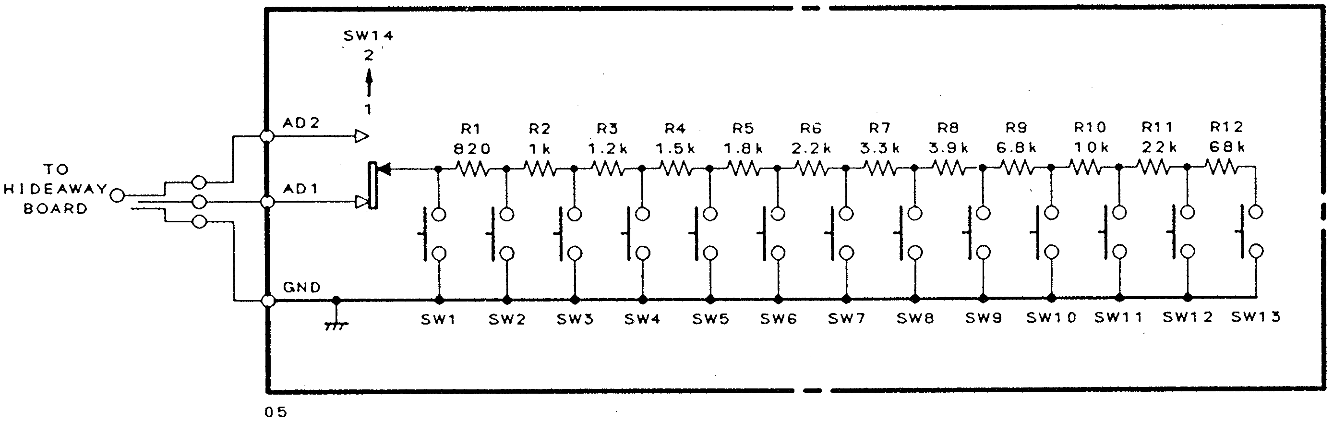
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated)

Caution :

Pattern face side : (Conductor Side) Parts on the pattern face side seen from the pattern face are indicated.

Parts face side : (Component side) Parts on the parts face side seen from the parts face are indicated.

2-11. SCHEMATIC DIAGRAM – ROTARY COMMNDER SECTION (RM-X38) –


SW14
2
1
AD2
AD1
GND
TO HIDEAWAY BOARD
R1 820
R2 1k
R3 1.2k
R4 1.5k
R5 1.8k
R6 2.2k
R7 3.3k
R8 3.9k
R9 6.8k
R10 10k
R11 22k
R12 68k
SW1
SW2
SW3
SW4
SW5
SW6
SW7
SW8
SW9
SW10
SW11
SW12
SW13
05

SWITCH PANEL LOCATION

SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
BTM SENS SCRL	▼ SOURCE	MUTE	MODE	PRESET DISC ▶	◀	VOL ▶	◀

SW9	SW10	SW11	SW12	SW13	SW14
SEEK AMS ⏭	⏮	OFF	SEL	DSPL	OPERATIONAL DIRECTION SWITCH 1 ⟶ 2

SECTION 3
EXPLODED VIEWS

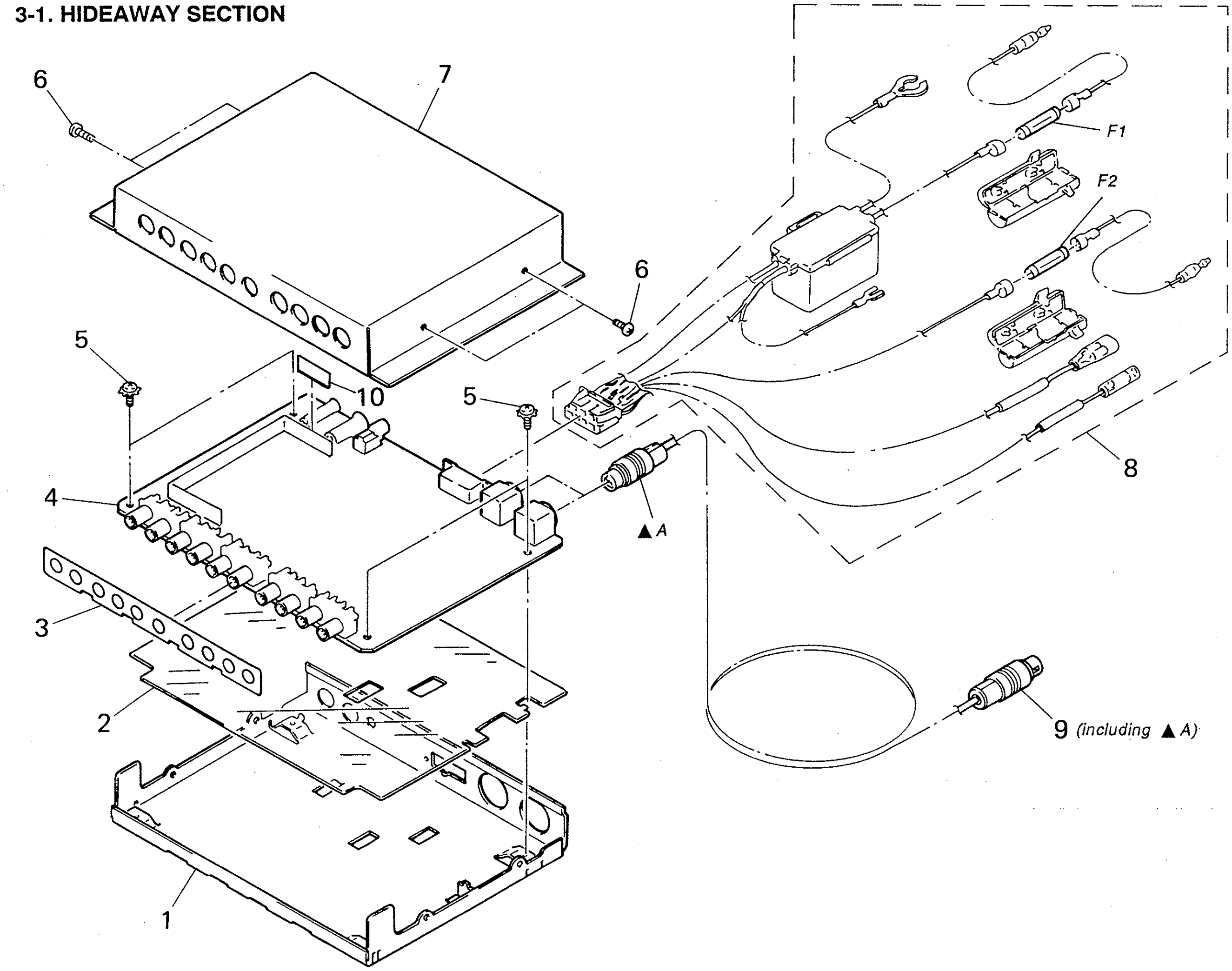
NOTE :
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked " ∗ "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- G : German

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

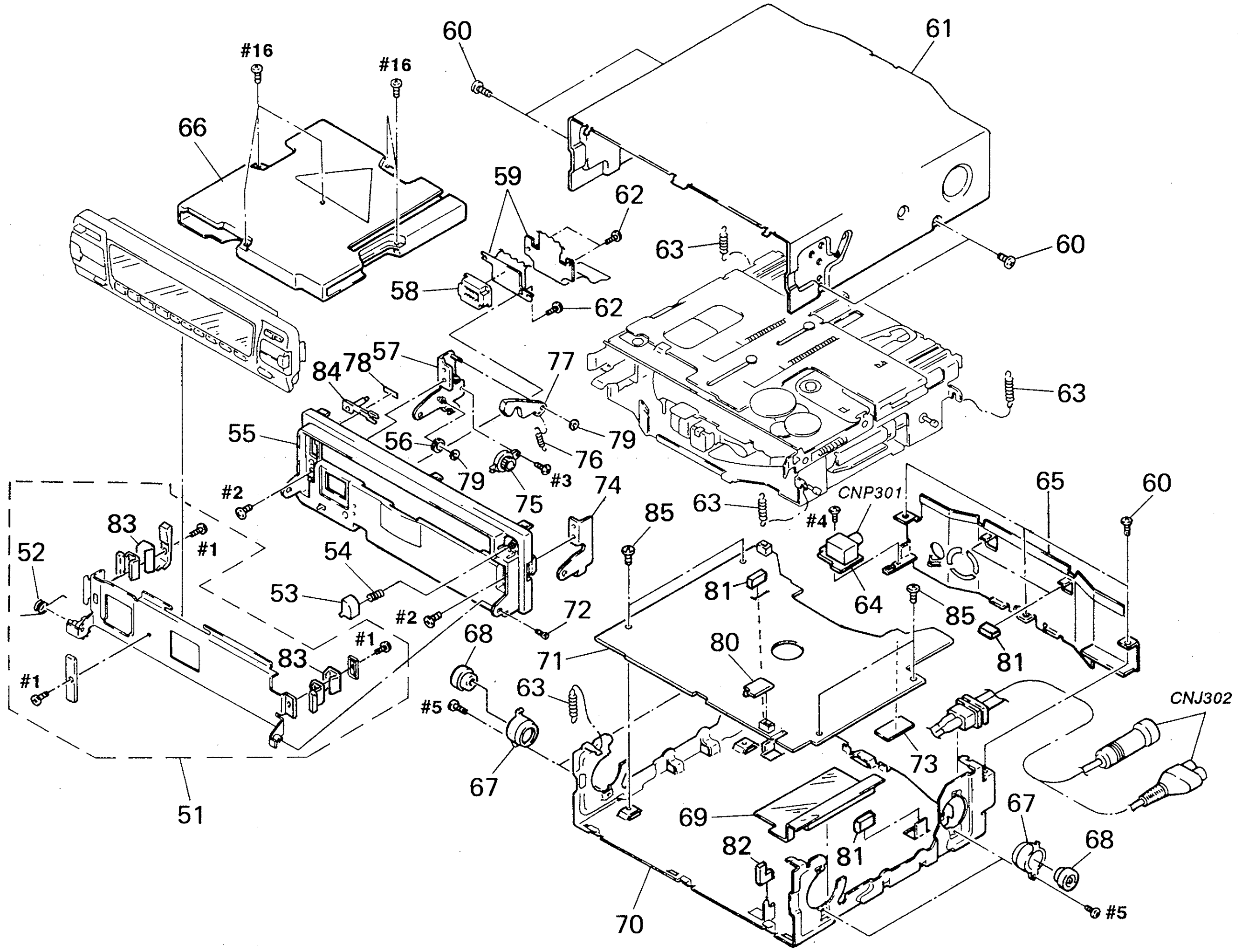
3-1. HIDEAWAY SECTION



Ref. No.	Part No.	Description	Remark
∗ 1	3-907-921-01	COVER (LOWER)	
2	3-907-922-01	SHEET, INSULATING	
3	3-909-729-01	COVER (JACK)	
∗ 4	A-3222-747-A	HIDE BOARD, COMPLETE (MDX-400:US, Canadian)	
∗ 4	A-3222-750-A	HIDE BOARD, COMPLETE(MDX-400RDS:AEP, UK)	
∗ 4	A-3222-753-A	HIDE BOARD, COMPLETE(MDX-400RDS:G)	
∗ 4	A-3222-754-A	HIDE BOARD, COMPLETE(MDX-400:E)	
5	3-906-713-01	SCREW (+PTT), GROUND POINT	
6	3-376-447-01	SCREW (2.6X6)	
∗ 7	X-3367-796-1	COVER (UPPER) ASSY (EXP)(MDX-400)	
∗ 7	X-3367-846-1	COVER (UPPER) ASSY (EXP2)(MDX-400RDS)	
8	1-696-623-61	CORD (WITH CONNECTOR)(POWER)	
9	1-590-519-11	CORD (WITH CONNECTOR)(UNILINK CONTROL)	
10	3-911-699-01	SPACER (TU)	
F1	1-532-419-00	FUSE(3.15A)	
F2	1-532-360-XX	FUSE(1A)	

SEE ADDITIONAL INFORMATION

3-2. CABINET, CHASSIS SECTION


#16
#16
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79
#3
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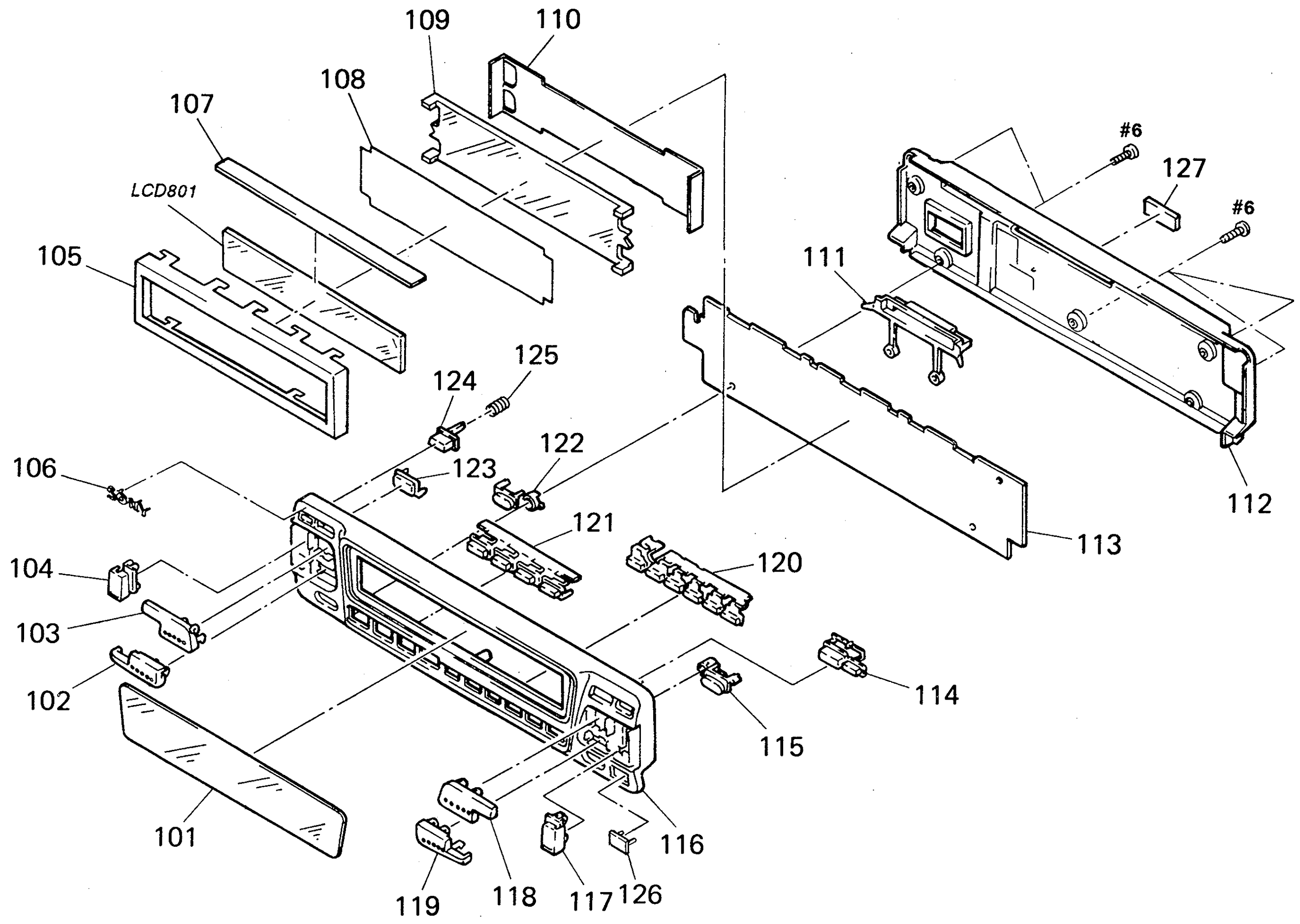
74
#2
85
63
CNP301
65
60
#4
83
52
#1
54
53
64
81
#2
72
85
68
#1
80
81
71
83
#1
63
#5
CNJ302
73
67
51
67
69
68
82
81
70
#5

Ref. No.	Part No.	Description	Remark
51	A-3252-857-A	PLATE (FP) COMPLETE ASSY	
52	3-907-901-01	SPRING (PLATE)	
53	3-907-912-01	BUTTON (EJ)	
54	3-907-913-01	SPRING (EJ), COMPRESSION	
55	3-907-893-11	PANEL (SUB)	
56	3-907-909-01	GEAR (HOLDER)	
57	X-3367-468-1	HOLDER (L) ASSY	
58	1-764-375-11	PLUG, CONNECTOR	
59	1-650-599-11	SUB PANEL FLEXIBLE BOARD	
60	3-912-956-01	SCREW (2.6X6) (CU), +BVTT	
* 61	X-3367-466-1	COVER ASSY	
62	3-909-607-01	SCREW	
63	3-907-914-01	SPRING (FL), TENSION	
* 64	1-650-786-11	D.OUT BOARD	
* 65	3-907-891-01	CHASSIS (REAR)	
66	X-3367-581-1	MAGAZINE ASSY	
67	3-907-892-01	HOLDER (DAMPER)	
68	3-907-915-01	DAMPER (MC)	
* 69	3-909-606-01	SHEET (FLEXIBLE)	

Ref. No.	Part No.	Description	Remark
* 70	3-907-888-01	CHASSIS (MAIN)	
71	A-3222-672-A	MAIN BOARD, COMPLETE (MDX-400)	
71	A-3222-752-A	MAIN BOARD, COMPLETE (MDX-400RDS)	
72	3-907-902-01	COLLAR	
* 73	3-909-608-01	SPACER (H)	
74	X-3367-789-1	HOLDER (R) ASSY	
75	3-953-235-21	DAMPER, OIL	
76	3-907-908-01	SPRING (LOCK), TENSION	
77	3-907-907-01	LEVER (LOCK)	
78	3-324-556-21	SPACER, SW	
79	3-341-752-11	WASHER, POLYETHYLENE	
* 80	1-651-110-12	LAMP BOARD	
81	3-907-918-01	CUSHION (STTOPPER B)	
82	3-907-917-01	CUSHION (STTOPPER A)	
83	3-911-734-01	SPRING (PILE), LEAF	
84	X-3367-791-1	SPRING (SW) ASSY, LEAF	
85	3-912-525-01	SCREW (2.6X4) (CU), +B	
CNP301	1-695-546-11	PLUG, CONNECTOR (UNILINK OUT/DIGITAL)	
CNJ302	1-590-935-31	CORD (WITH CONNECTOR)(INDASH UNIT)	

3-3. FRONT PANEL SECTION

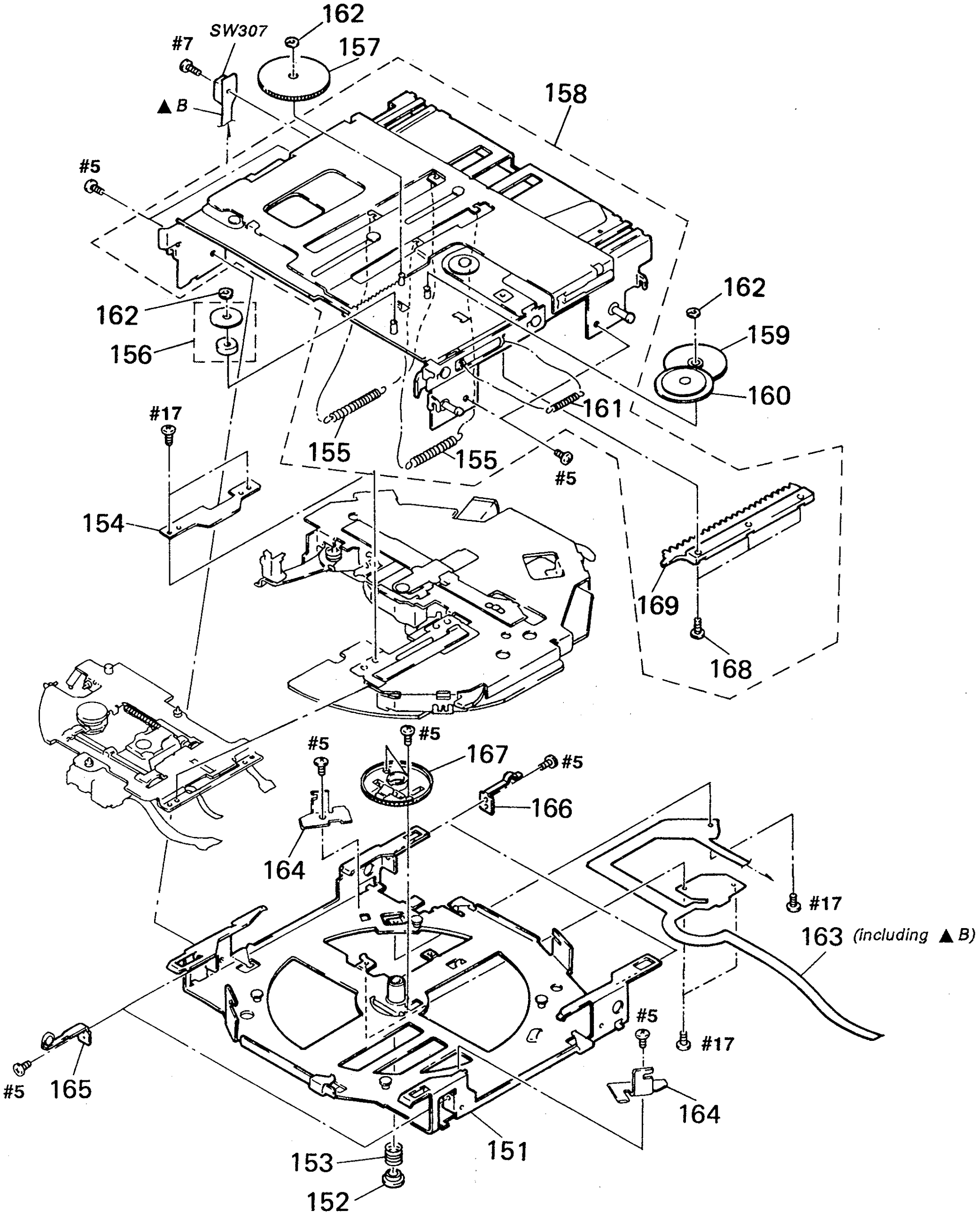
SEE ADDITIONAL INFORMATION



Ref. No.	Part No.	Description	Remark
101	3-907-875-11	PLATE (LCD), INDICATION	
102	3-907-866-01	BUTTON (-)	
103	3-907-865-01	BUTTON (+)	
104	3-907-867-01	BUTTON (SEL)	
* 105	3-907-877-01	HOLDER (LCD)	
106	3-904-194-01	EMBLEM (NO. 2.5), SONY	
107	1-537-644-11	CONNECTOR, RUBBER	
* 108	3-907-878-01	ILLUMINATOR	
* 109	3-907-879-02	PLATE (LCD), LIGHT GUIDE	
* 110	3-907-880-01	REFLECTOR (LCD)	
111	3-907-876-01	BUTTON (LOCK)	
112	3-907-861-01	PANEL (REAR)	
* 113	A-3222-748-A	DISPLAY BOARD, COMPLETE (MDX-400:US, Canadian)	
* 113	A-3222-751-A	DISPLAY BOARD, COMPLETE (MDX-400RDS)	
* 113	A-3222-755-A	DISPLAY BOARD, COMPLETE (MDX-400:E)	
114	3-907-872-01	BUTTON (TV) (MDX-400:US, Canadian)	
114	3-907-872-11	BUTTON (AF/TA) (MDX-400RDS)	
115	3-907-871-01	BUTTON (LIST)	
116	3-907-860-11	PANEL (FRONT) (MDX-400RDS)	
116	3-907-860-21	PANEL (FRONT) (MDX-400:E)	
116	3-907-860-31	PANEL (FRONT) (MDX-400:US, Canadian)	
117	3-907-864-01	BUTTON (CD)	
118	3-907-862-01	BUTTON (MD)	
119	3-907-863-01	BUTTON (TUNER)	
120	3-907-869-01	BUTTON (5-10)	
121	3-907-868-01	BUTTON (1-4)	
122	3-907-870-01	BUTTON (DSP)	
123	3-907-873-01	FILTER	
124	3-907-874-01	BUTTON (OPEN)	
125	3-578-221-00	SPRING, COMPRESSION	
126	3-908-254-01	EMBLEM, MD	
127	3-910-446-02	SPACER (L)	
LCD801	1-810-402-12	DISPLAY PANEL, LIQUID CRYSTAL	

SEE ADDITIONAL INFORMATION

3-4. MECHANISM SECTION-1



162
SW307
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▲B
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163 (including ▲B)
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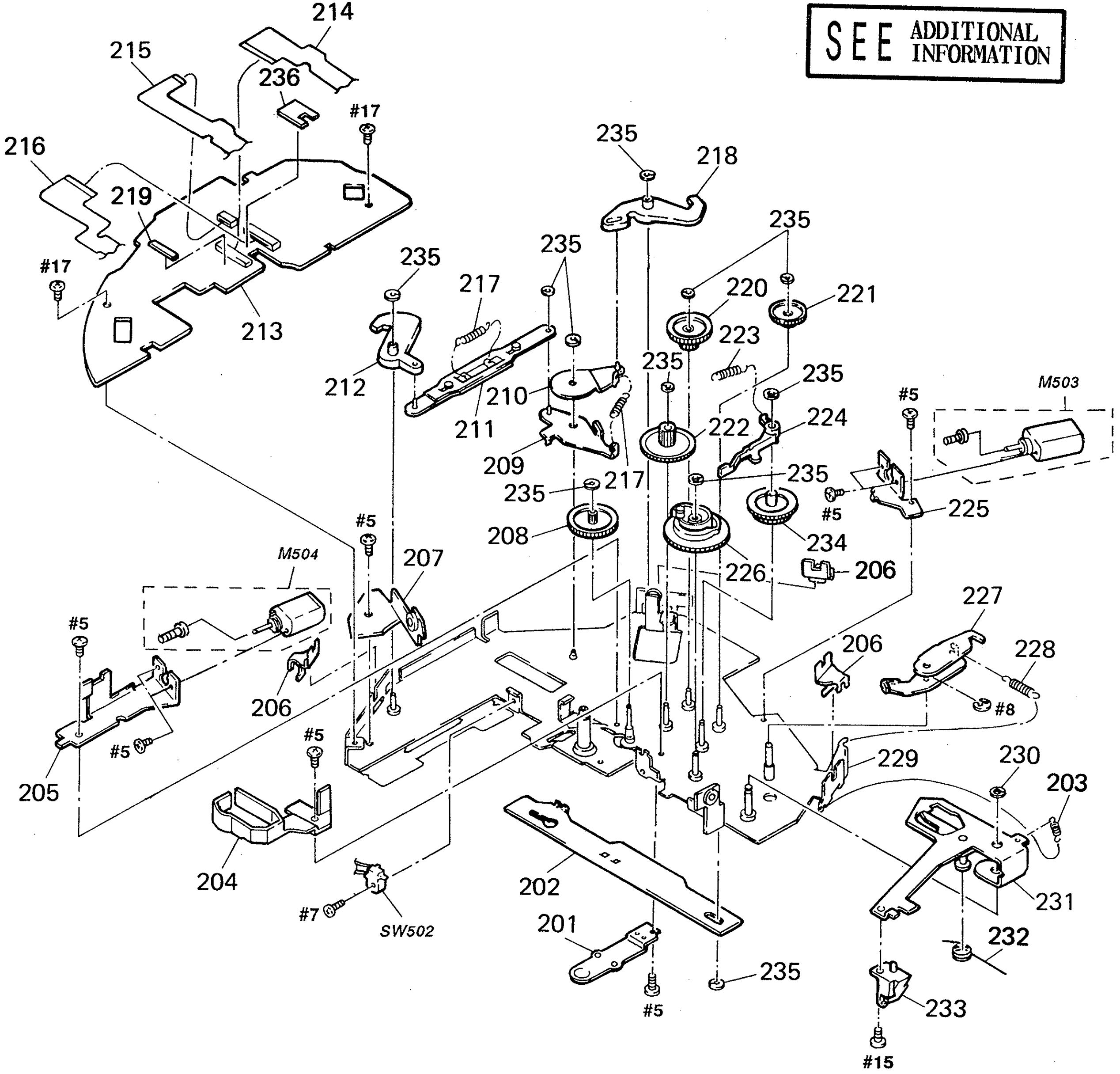
Ref. No.	Part No.	Description	Remark
* 151	X-3367-576-1	CHASSIS (BASE) COMPLETE ASSY	
152	3-909-430-01	CAP (CENTER)	
153	3-908-680-01	SPRING (CENTER), COMPRESSION	
* 154	3-909-435-01	RETAINER (HINGE)	
155	3-908-491-01	SPRING (HM), TENSION	
156	X-3367-709-1	ROLLER (F) ASSY	
157	3-909-207-01	GEAR (F1)	
* 158	X-3367-579-1	CHASSIS (UPPER) ASSY	
159	3-909-208-01	GEAR (F2)	
160	X-3367-708-1	ARM (F) ASSY	
161	3-908-492-01	SPRING (EJU), TENSION	
162	3-321-483-11	RING, RETAINING	
163	1-650-600-11	SENSOR FLEXIBLE BOARD	
* 164	3-908-683-01	HOLDER (KC STOPPER)	
165	X-3367-578-1	SPRING (BF) ASSY	
166	3-908-684-01	SPRING (BR)	
167	3-908-681-01	GEAR (FIXED)	
168	3-719-381-31	SCREW (M2X3)	
169	3-908-490-01	RACK	
SW307	1-570-771-11	SWITCH (HOME)	

3-5. MECHANISM SECTION-2

SEE ADDITIONAL INFORMATION


214
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#17
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211
222
224
M503
#5
209
235
217
235
#5
225
208
234
#5
207
M504
226
206
227
#5
206
228
206
#8
#5
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230
203
#5
205
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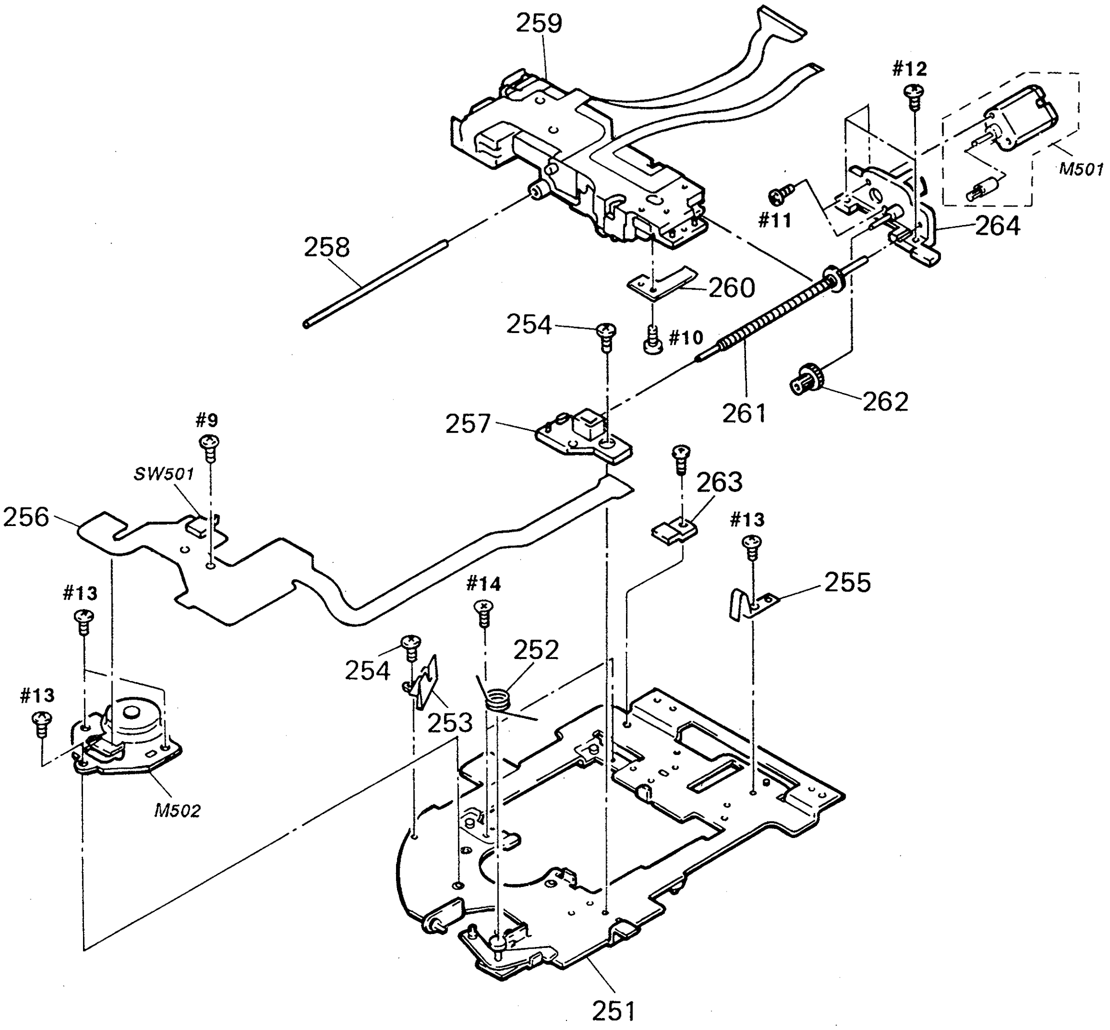
202
231
#7
SW502
201
232
235
#5
233
#15

Ref.No.	Part No.	Description	Remark
201	3-908-352-01	SPRING (CENTER)	
202	X-3367-570-1	JOINT (KC-A) ASSY	
203	3-500-129-01	SPRING, TENSION	
204	3-908-340-02	COVER (FLEXIBLE)	
* 205	3-908-346-01	HOLDER (MOTOR A)	
206	3-908-360-01	PLATE (PHOTO A)	
207	X-3367-569-1	HOLDER (ROLLER) ASSY	
208	3-908-342-01	GEAR (KA2)	
209	X-3367-571-1	JOINT (KC-B) ASSY	
210	X-3367-688-1	JOINT (KC-D) ASSY	
211	X-3367-572-1	JOINT (KC-C) ASSY	
212	3-908-335-01	LEVER (KC-H-A)	
* 213	A-3295-872-A	MOUNTED PCB, ROTARY BOARD, COMPLETE	
214	1-650-789-11	ROTARY FLEXIBLE (INSIDE) BOARD	
215	1-651-144-11	ROTARY FLEXIBLE (CENTER) BOARD	
216	1-650-790-11	ROTARY FLEXIBLE (OUTSIDE) BOARD	
217	3-909-437-01	SPRING, TENSION	
218	3-908-336-01	LEVER (KC-H-B)	
219	3-911-214-01	SHEET(FLEXIBLE B)	
220	3-908-343-01	WHEEL (A), WORM	
221	3-908-338-01	WHEEL (B), WORM	
222	3-908-341-01	GEAR (KA1)	
223	3-539-226-11	SPRING, TENSION	
224	3-908-339-01	LEVER (SW)	
* 225	3-908-348-01	HOLDER (MOTOR B)	
226	X-3367-573-1	GEAR ASSY, CAM	
* 227	3-908-344-01	LEVER (STOPPER)	
228	3-483-117-01	SPRING, TENSION	
* 229	X-3367-568-1	CHASSIS (ROTARY) ASSY	
230	3-385-409-01	WASHER, POLYETHYLENE	
* 231	X-3367-575-1	LEVER (UD-A) ASSY	
232	3-908-357-01	SPRING (UD-B)	
233	3-908-358-01	LEVER (UD-C)	
234	3-908-337-01	GEAR (KB)	
235	3-377-719-11	WASHER, POLYETHYLENE	
236	3-911-213-01	SHEET (FLEXIBLE A)	
M503	X-3367-748-1	U/D MOTOR ASSY (UP/DW)	
M504	X-3367-747-1	ROTARY MOTOR ASSY (MD TURN L/R)	
SW502	1-570-771-21	SWITCH (UP/DW)	

3-6. MECHANISM SECTION-3



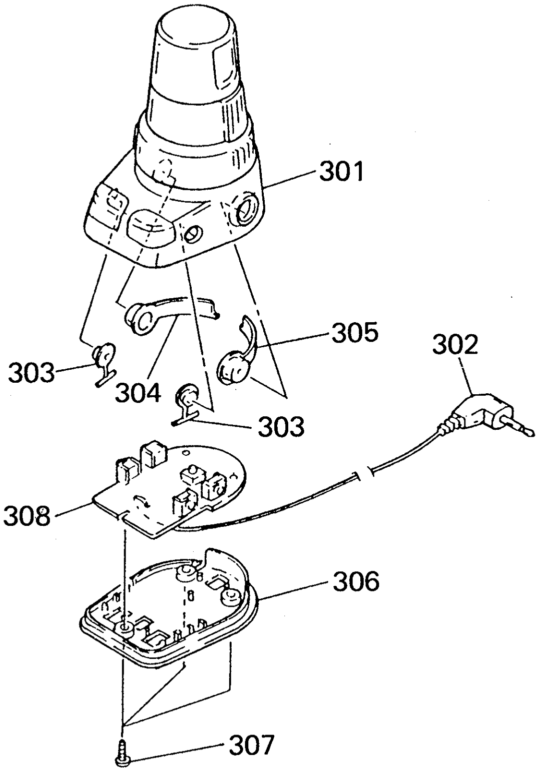
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
* 251	X-3367-536-1	CHASSIS (OP) ASSY	
252	3-908-495-01	SPRING (OP-UD)	
253	3-908-370-01	PLATE (PHOTO B)	
254	3-909-412-01	SCREW (+P) (1.7X2) (TYPE 3)	
255	3-384-465-01	SPRING (FEED SHAFT)	
256	1-650-601-11	BSL FLEXIBLE BOARD	
257	3-908-371-01	HOLDER (SL SHAFT)	
258	3-908-376-01	SHAFT (KJ)	
⚠259	8-583-007-11	DEVICE, MINIATURE DISK KMS-151A	

Ref. No.	Part No.	Description	Remark
260	3-384-475-01	SPRING (RACK 3)	
261	X-3367-539-1	SHAFT (SL) ASSY	
262	3-908-373-01	GEAR (SLB)	
* 263	3-909-825-01	HOLDER (KJ)	
264	X-3367-538-1	HOLDER (SL MOTOR) ASSY	
M501	X-3365-845-1	MOTOR ASSY, SL (SLED)	
M502	1-698-304-11	MOTOR, BSL (BSL)	
SW501	1-572-467-61	PUSH SWITCH (1KEY)(INNER LIMIT)	

SEE ADDITIONAL INFORMATION

3-7. ROTARY COMMANDER SECTION
(RM-X38)



Ref. No.	Part No.	Description	Remark
301	9-905-918-01	SHUTTLE ASSY	
302	9-905-919-01	CORD(WITOH PLUG)	
303	9-905-302-01	BUTTON E	
304	9-905-303-01	BUTTON D	
305	9-905-304-01	BUTTON C	
306	9-905-305-01	CASE(LOWER)	
307	7-685-105-19	M2X8	
308	9-905-297-01	ROTARY COMMADER BOARD, COMPLETE	

D. OUT **DISPLAY**

SECTION 4
ELECTRICAL PARTS LIST

NOTE :
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ , for example :
  uA.... : μ A.... , uPA.... : μ PA....
  uPB.... : μ PB.... , uPC.... : μ PC....
  uPD.... : μ PD....
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H
- G : German

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-650-786-11	D.OUT BOARD			
		***********			
		< CAPACITOR >			
C399	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CNP301	1-695-546-11	PLUG, CONNECTOR(UNILINK OUT/DIGITAL)			
CNP304	1-764-377-31	CONNECTOR, BOARD TO BOARD 6P			

****

Ref. No.	Part No.	Description			Remark
*	A-3222-748-A	DISPLAY BOARD, COMPLETE			
		**********************			
		(MDX-400:US, Canadian)			
*	A-3222-751-A	DISPLAY BOARD, COMPLETE(MDX-400RDS)			
		**********************			
*	A-3222-755-A	DISPLAY BOARD, COMPLETE(MDX-400:E)			
		**********************			
	1-537-644-11	CONNECTOR, RUBBER			
*	3-907-877-01	HOLDER (LCD)			
*	3-907-878-01	ILLUMINATOR			
*	3-907-879-02	PLATE (LCD), LIGHT GUIDE			
*	3-907-880-01	REFLECTOR (LCD)			
		< CAPACITOR >			
C801	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C802	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C803	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C804	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C805	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C806	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C807	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C808	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C809	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C811	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C812	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C813	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C814	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C815	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C816	1-162-924-11	CERAMIC CHIP	56PF	5%	50V
C817	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C819	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C820	1-164-337-11	CERAMIC CHIP	2.2uF		16V
		< CONNECTOR >			
CN801	1-764-374-11	SOCKET, CONNECTOR 1P			
		< DIODE >			
D801	8-719-988-62	DIODE	1SS355		
D802	8-719-976-XX	DIODE	DTZ5.1B-TT11		
D803	8-719-988-62	DIODE	1SS355		
D804	8-719-422-64	DIODE	MA8062-M		
D805	8-719-109-93	DIODE	RD6.2ESB2		
D806	8-719-422-64	DIODE	MA8062-M		
D807	8-719-422-64	DIODE	MA8062-M		
D808	8-719-422-64	DIODE	MA8062-M		
D809	8-719-422-64	DIODE	MA8062-M		
D810	8-719-987-45	LED	CL-155Y/PG-CD(TV)		(MDX-400:US, Canadian)
D810	8-719-987-45	LED	CL-155Y/PG-CD(AF/TA)		(MDX-400RDS)
D811	8-719-987-45	LED	CL-155Y/PG-CD(MD)		
D812	8-719-987-45	LED	CL-155Y/PG-CD(CD)		
D813	8-719-987-45	LED	CL-155Y/PG-CD(TUNER)		
D814	8-719-987-45	LED	CL-155Y/PG-CD(OFF)		
D815	8-719-987-45	LED	CL-155Y/PG-CD(LIST)		
D816	8-719-987-45	LED	CL-155Y/PG-CD(10)		
D817	8-719-987-45	LED	CL-155Y/PG-CD(9/BANK)		
D818	8-719-987-45	LED	CL-155Y/PG-CD(8/D.SCAN)		

Ref. No.	Part No.	Description	Remark
D819	8-719-987-45	LED CL-155Y/PG-CD(7/SHUF)	
D820	8-719-987-45	LED CL-155Y/PG-CD(6/REPEAT)	
D821	8-719-987-45	LED CL-155Y/PG-CD(5/INTRO)	
D822	8-719-987-45	LED CL-155Y/PG-CD(4)	
D823	8-719-987-45	LED CL-155Y/PG-CD(3)	
D824	8-719-987-45	LED CL-155Y/PG-CD(2)	
D825	8-719-987-45	LED CL-155Y/PG-CD(1)	
D826	8-719-987-45	LED CL-155Y/PG-CD(T)	
D827	8-719-987-45	LED CL-155Y/PG-CD(SET)	
D828	8-719-987-45	LED CL-155Y/PG-CD(-)	
D829	8-719-987-45	LED CL-155Y/PG-CD(DSP)	
D830	8-719-422-64	DIODE MA8062-M	
D831	8-719-422-64	DIODE MA8062-M	
D832	8-719-976-84	DIODE DTZ3.6A-TT11	
		< IC >	
IC801	8-759-197-13	IC MSM6665C-02GS-K(MDX-400)	
IC801	8-759-263-85	IC MSM6665C-06GS-K(MDX-400RDS)	
IC802	8-759-515-60	IC RS-20	
IC803	8-759-205-62	IC TC4050BF-TP1	
		< JUMPER RESISTOR >	
JR801	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR802	1-216-295-00	METAL CHIP 0 5% 1/10W	
		< LIQUID CRYSTAL DISPLAY >	
LCD801	1-810-402-12	DISPLAY PANEL, LIQUID CRYSTAL	
		< PILOT LAMP >	
PL801	1-517-276-11	LAMP, PILOT(LCD BACK LIGHT)	
PL802	1-517-276-11	LAMP, PILOT(LCD BACK LIGHT)	
PL803	1-517-276-11	LAMP, PILOT(LCD BACK LIGHT)	
PL804	1-517-276-11	LAMP, PILOT(LCD BACK LIGHT)	
		< TRANSISTOR >	
Q801	8-729-216-22	TRANSISTOR 2SA1162-G	
Q802	8-729-904-66	TRANSISTOR DTD113EK	
Q803	8-729-904-66	TRANSISTOR DTD113EK	
Q804	8-729-020-67	TRANSISTOR XN1A312-TX	
		< RESISTOR >	
R801	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R802	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R803	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R804	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R805	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R806	1-216-025-00	METAL CHIP 100 5% 1/10W	
R807	1-216-817-11	METAL CHIP 470 5% 1/16W	
R808	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R809	1-216-836-11	METAL CHIP 18K 5% 1/16W	
R810	1-216-041-00	METAL CHIP 470 5% 1/10W	
R811	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R812	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R813	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R814	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R815	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R816	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R817	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R818	1-218-716-11	METAL CHIP 10K 0.50% 1/16W	
R819	1-218-732-11	METAL CHIP 47K 0.50% 1/16W	
R820	1-218-732-11	METAL CHIP 47K 0.50% 1/16W	
R821	1-216-809-11	METAL CHIP 100 5% 1/16W	
R824	1-216-815-11	METAL CHIP 330 5% 1/16W	
R827	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R830	1-216-025-00	METAL CHIP 100 5% 1/10W	
R831	1-216-025-00	METAL CHIP 100 5% 1/10W	
R832	1-216-025-00	METAL CHIP 100 5% 1/10W	
R833	1-216-025-00	METAL CHIP 100 5% 1/10W	
R834	1-216-025-00	METAL CHIP 100 5% 1/10W	
R835	1-216-025-00	METAL CHIP 100 5% 1/10W	
R836	1-216-025-00	METAL CHIP 100 5% 1/10W	
R837	1-216-025-00	METAL CHIP 100 5% 1/10W	
R838	1-216-025-00	METAL CHIP 100 5% 1/10W	
R839	1-216-025-00	METAL CHIP 100 5% 1/10W	
R850	1-218-688-11	METAL CHIP 680 0.50% 1/16W	
R851	1-218-845-11	METAL CHIP 820 0.50% 1/16W	
R852	1-218-845-11	METAL CHIP 820 0.50% 1/16W	
R853	1-218-692-11	METAL CHIP 1K 0.50% 1/16W	
R854	1-218-692-11	METAL CHIP 1K 0.50% 1/16W	
R855	1-218-851-11	METAL CHIP 1.5K 0.50% 1/16W	
R856	1-218-851-11	METAL CHIP 1.5K 0.50% 1/16W	
R857	1-218-701-11	METAL CHIP 2.4K 0.50% 1/16W	
R858	1-218-702-11	METAL CHIP 2.7K 0.50% 1/16W	
R859	1-218-706-11	METAL CHIP 3.9K 0.50% 1/16W	
R864	1-218-688-11	METAL CHIP 680 0.50% 1/16W	
R865	1-218-845-11	METAL CHIP 820 0.50% 1/16W	
R866	1-218-845-11	METAL CHIP 820 0.50% 1/16W	
R867	1-218-692-11	METAL CHIP 1K 0.50% 1/16W	
R868	1-218-692-11	METAL CHIP 1K 0.50% 1/16W	
R869	1-218-851-11	METAL CHIP 1.5K 0.50% 1/16W	
R870	1-218-851-11	METAL CHIP 1.5K 0.50% 1/16W	
R871	1-218-701-11	METAL CHIP 2.4K 0.50% 1/16W	
R872	1-218-702-11	METAL CHIP 2.7K 0.50% 1/16W	
R873	1-218-706-11	METAL CHIP 3.9K 0.50% 1/16W	
R874	1-218-710-11	METAL CHIP 5.6K 0.50% 1/16W	

DISPLAY **HIDE**

SEE ADDITIONAL INFORMATION

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
SW801	1-572-474-11	SWITCH, TACTIL(TUNER)			
SW802	1-572-474-11	SWITCH, TACTIL(CD)			
SW803	1-572-474-11	SWITCH, TACTIL(MD)			
SW804	1-572-474-11	SWITCH, TACTIL(TV)(MDX-400:US,Canadian)			
SW804	1-572-474-11	SWITCH, TACTIL(AF/TA)(MDX-400RDS)			
SW805	1-572-474-11	SWITCH, TACTIL(OFF)			
SW808	1-572-474-11	SWITCH, TACTIL(LIST)			
SW809	1-572-474-11	SWITCH, TACTIL(-)			
SW810	1-572-474-11	SWITCH, TACTIL(SEL)			
SW811	1-572-474-11	SWITCH, TACTIL(+)			
SW816	1-572-474-11	SWITCH, TACTIL(DSP)			
SW818	1-692-037-31	SWITCH, KEY BOARD(1)			
SW819	1-692-037-31	SWITCH, KEY BOARD(2)			
SW820	1-692-037-31	SWITCH, KEY BOARD(3)			
SW821	1-692-037-31	SWITCH, KEY BOARD(4)			
SW822	1-692-037-31	SWITCH, KEY BOARD(5/INTRO)			
SW823	1-692-037-31	SWITCH, KEY BOARD(6/REPEAT)			
SW824	1-692-037-31	SWITCH, KEY BOARD(7/SHUF)			
SW825	1-692-037-31	SWITCH, KEY BOARD(8/D.SCAN)			
SW826	1-692-037-31	SWITCH, KEY BOARD(9/BANK)			
SW827	1-692-037-31	SWITCH, KEY BOARD(10)			
		< THERMISTOR >			
TH801	1-810-216-11	THERMISTOR, CHIP			

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Ref. No.	Part No.	Description			Remark
*	A-3222-747-A	HIDE BOARD, COMPLETE ********************			(MDX-400:US,Canadian)
*	A-3222-750-A	HIDE BOARD, COMPLETE(MDX-400RDS:AEP,UK) ********************			
*	A-3222-753-A	HIDE BOARD, COMPLETE(MDX-400RDS:G) ********************			
*	A-3222-754-A	HIDE BOARD, COMPLETE(MDX-400:E) ********************			
		< CAPACITOR >			
C1	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C2	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C3	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C4	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C5	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C6	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C7	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C8	1-124-916-11	ELECT	22uF	20%	63V
C9	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C10	1-126-964-11	ELECT	10uF	20%	50V
C11	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V

Ref. No.	Part No.	Description			Remark
C12	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C13	1-126-964-11	ELECT	10uF	20%	50V
C14	1-164-699-11	CERAMIC CHIP	0.0033uF	5%	50V
C15	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C16	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C17	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C19	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C20	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C21	1-126-933-11	ELECT	100uF	20%	16V
C22	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C23	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C24	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C25	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C26	1-136-169-00	FILM	0.22uF	5%	50V (MDX-400)
C26	1-136-159-00	FILM	0.033uF	5%	50V (MDX-400RDS)
C27	1-130-479-00	MYLAR	0.0047uF	5%	50V (MDX-400)
C27	1-130-475-00	MYLAR	0.0022uF	5%	50V (MDX-400RDS)
C28	1-126-934-11	ELECT	220uF	20%	16V
C29	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C30	1-126-933-11	ELECT	100uF	20%	16V
C31	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C32	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C33	1-124-126-00	ELECT	47uF	20%	16V
C34	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C35	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C36	1-126-964-11	ELECT	10uF	20%	50V
C64	1-136-158-00	FILM	0.027uF	5%	50V
C65	1-136-158-00	FILM	0.027uF	5%	50V
C66	1-126-933-11	ELECT	100uF	20%	16V
C67	1-126-933-11	ELECT	100uF	20%	16V
C68	1-126-933-11	ELECT	100uF	20%	16V
C69	1-163-127-00	CERAMIC CHIP	270PF	5%	50V (MDX-400RDS)
C70	1-126-964-11	ELECT	10uF	20%	50V (MDX-400RDS)
C71	1-164-232-11	CERAMIC CHIP	0.01uF		50V (MDX-400RDS)
C72	1-163-237-11	CERAMIC CHIP	27PF	5%	50V (MDX-400RDS)
C73	1-163-237-11	CERAMIC CHIP	27PF	5%	50V (MDX-400RDS)
C74	1-163-038-11	CERAMIC CHIP	0.1uF		25V (MDX-400RDS)
C75	1-163-038-11	CERAMIC CHIP	0.1uF		25V (MDX-400RDS)
C76	1-164-232-11	CERAMIC CHIP	0.01uF		50V

SEE ADDITIONAL INFORMATION

HIDE

Ref. No.	Part No.	Description				Remark
C79	1-130-479-00	MYLAR	0.0047uF	5%	50V	(MDX-400RDS)
C80	1-110-351-11	MYLAR	0.001uF	5%	50V	(MDX-400RDS)
C81	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C82	1-124-126-00	ELECT	47uF	20%	16V	
C83	1-163-229-11	CERAMIC CHIP	12PF	5%	50V	
C85	1-136-169-00	FILM	0.22uF	5%	50V	(MDX-400RDS)
C86	1-136-165-00	FILM	0.1uF	5%	50V	(MDX-400RDS)
C87	1-164-346-11	CERAMIC CHIP	1uF		16V	(MDX-400)
C88	1-126-933-11	ELECT	100uF	20%	16V	
C89	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C90	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C91	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C92	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C94	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C101	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C102	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C103	1-126-963-11	ELECT	4.7uF	20%	50V	
C104	1-126-963-11	ELECT	4.7uF	20%	50V	
C105	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	
C106	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	
C107	1-126-964-11	ELECT	10uF	20%	50V	
C109	1-136-161-00	FILM	0.047uF	5%	50V	
C110	1-136-161-00	FILM	0.047uF	5%	50V	
C111	1-126-111-11	ELECT	3.3uF	20%	50V	
C112	1-130-481-00	MYLAR	0.0068uF	5%	50V	
C113	1-126-964-11	ELECT	10uF	20%	50V	
C114	1-136-169-00	FILM	0.22uF	5%	50V	
C115	1-126-964-11	ELECT	10uF	20%	50V	
C117	1-126-964-11	ELECT	10uF	20%	50V	
C118	1-163-038-11	CERAMIC CHIP	0.1uF		25V	
C119	1-163-038-11	CERAMIC CHIP	0.1uF		25V	
C120	1-124-126-00	ELECT	47uF	20%	16V	
C121	1-163-038-11	CERAMIC CHIP	0.1uF		25V	
C122	1-126-964-11	ELECT	10uF	20%	50V	
C123	1-124-126-00	ELECT	47uF	20%	16V	
C124	1-163-038-11	CERAMIC CHIP	0.1uF		25V	
C125	1-126-964-11	ELECT	10uF	20%	50V	
C126	1-124-126-00	ELECT	47uF	20%	16V	
C127	1-163-038-11	CERAMIC CHIP	0.1uF		25V	
C128	1-126-964-11	ELECT	10uF	20%	50V	
C129	1-163-139-00	CERAMIC CHIP	820PF	5%	50V	(MDX-400:US, Canadian)
C129	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	(MDX-400:E, MDX-400RDS)

Ref. No.	Part No.	Description				Remark
C130	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	(MDX-400/MDX-400RDS:AEP, UK)
C130	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	(MDX-400RDS:G)
C131	1-126-964-11	ELECT	10uF	20%	50V	
C132	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	
C133	1-126-934-11	ELECT	220uF	20%	16V	
C135	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	
C150	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C151	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C152	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C201	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C202	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C203	1-126-963-11	ELECT	4.7uF	20%	50V	
C204	1-126-963-11	ELECT	4.7uF	20%	50V	
C205	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	
C206	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	
C207	1-126-964-11	ELECT	10uF	20%	50V	
C209	1-136-161-00	FILM	0.047uF	5%	50V	
C210	1-136-161-00	FILM	0.047uF	5%	50V	
C211	1-126-111-11	ELECT	3.3uF	20%	50V	
C212	1-130-481-00	MYLAR	0.0068uF	5%	50V	
C213	1-126-964-11	ELECT	10uF	20%	50V	
C214	1-136-169-00	FILM	0.22uF	5%	50V	
C215	1-126-964-11	ELECT	10uF	20%	50V	
C217	1-126-964-11	ELECT	10uF	20%	50V	
C218	1-163-038-11	CERAMIC CHIP	0.1uF		25V	
C219	1-163-038-11	CERAMIC CHIP	0.1uF		25V	
C220	1-124-126-00	ELECT	47uF	20%	16V	
C221	1-163-038-11	CERAMIC CHIP	0.1uF		25V	
C222	1-126-964-11	ELECT	10uF	20%	50V	
C223	1-124-126-00	ELECT	47uF	20%	16V	
C224	1-163-038-11	CERAMIC CHIP	0.1uF		25V	
C225	1-126-964-11	ELECT	10uF	20%	50V	
C226	1-124-126-00	ELECT	47uF	20%	16V	
C227	1-163-038-11	CERAMIC CHIP	0.1uF		25V	
C228	1-126-964-11	ELECT	10uF	20%	50V	
C229	1-163-139-00	CERAMIC CHIP	820PF	5%	50V	(MDX-400:US, Canadian)
C229	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	(MDX-400:E, MDX-400RDS)
C230	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	(MDX-400/MDX-400RDS:AEP, UK)
C230	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	(MDX-400RDS:G)
C231	1-126-964-11	ELECT	10uF	20%	50V	
C232	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	
C233	1-126-934-11	ELECT	220uF	20%	16V	
C235	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	
C250	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	

HIDE

SEE ADDITIONAL INFORMATION

Ref. No.	Part No.	Description			Remark
C251	1-163-117-00	CERAMIC CHIP	100PF	5%	50V.
C252	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C301	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C302	1-124-903-11	ELECT	1uF	20%	50V
C303	1-164-346-11	CERAMIC CHIP	1uF		16V
C304	1-126-933-11	ELECT	100uF	20%	16V
C305	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C306	1-124-903-11	ELECT	1uF	20%	50V
C307	1-126-964-11	ELECT	10uF	20%	50V
C308	1-164-346-11	CERAMIC CHIP	1uF		16V
C309	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C310	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C311	1-124-126-00	ELECT	47uF	20%	16V
C312	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C313	1-126-933-11	ELECT	100uF	20%	16V
C314	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C501	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C502	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C503	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C504	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C505	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C508	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C509	1-126-964-11	ELECT	10uF	20%	50V
C512	1-124-903-11	ELECT	1uF	20%	50V
C513	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C514	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C515	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C516	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C601	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C602	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C603	1-124-126-00	ELECT	47uF	20%	16V
C604	1-126-964-11	ELECT	10uF	20%	50V
C605	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C606	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C607	1-164-699-11	CERAMIC CHIP	0.0033uF	5%	50V
C608	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C609	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C610	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C613	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C701	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C702	1-124-903-11	ELECT	1uF	20%	50V
C703	1-125-705-11	CAP, DOUBLE LAYERS		0.22F	
C704	1-126-933-11	ELECT	100uF	20%	16V
C705	1-126-963-11	ELECT	4.7uF	20%	50V
C706	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C709	1-124-126-00	ELECT	47uF	20%	16V
C711	1-128-489-11	ELECT	3300uF	20%	16V
C712	1-126-963-11	ELECT	4.7uF	20%	50V
C750	1-164-346-11	CERAMIC CHIP	1uF		16V
C751	1-124-126-00	ELECT	47uF	20%	16V
C752	1-126-964-11	ELECT	10uF	20%	50V
C753	1-124-126-00	ELECT	47uF	20%	16V
C754	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C755	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C756	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C757	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C758	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C759	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C760	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C761	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C998	1-163-035-00	CERAMIC CHIP	0.047uF		50V

< CONNECTOR >

Ref. No.	Part No.	Description
CN301	1-580-441-21	JACK, PIN 2P(INDASH UNIT)
CN302	1-580-441-21	JACK, PIN 2P(UNILINKIN/AUDIO)
CN303	1-580-441-21	JACK, PIN 2P(AUDIO OUTPUT/FRONT)
CN304	1-580-441-21	JACK, PIN 2P(AUDIO OUTPUT/REAR)
CN305	1-580-441-21	JACK, PIN 2P(AUDIO OUTPUT/SUB)
CN501	1-580-907-11	PLUG, CONNECTOR(INDASH UNIT)
CN502	1-580-907-11	PLUG, CONNECTOR(UNILINK IN/AUDIO)
CN701	1-691-280-11	CONNECTOR(POWER)
CN702	1-566-822-11	JACK(COMMANDER)

< DIODE >

Ref. No.	Part No.	Description	
D1	8-719-971-18	DIODE	1SS318
D2	8-719-422-97	DIODE	MA8091-M
D3	8-719-914-44	DIODE	DAP202K
D4	8-719-914-44	DIODE	DAP202K
D6	8-719-977-03	DIODE	DTZ5.6B
D7	8-719-971-18	DIODE	1SS318
D501	8-719-422-64	DIODE	MA8062-M
D502	8-719-988-62	DIODE	1SS355
D503	8-719-988-62	DIODE	1SS355
D504	8-719-422-64	DIODE	MA8062-M
D505	8-719-422-64	DIODE	MA8062-M
D506	8-719-422-64	DIODE	MA8062-M
D507	8-719-422-64	DIODE	MA8062-M
D508	8-719-422-64	DIODE	MA8062-M
D551	8-719-422-64	DIODE	MA8062-M
D552	8-719-422-64	DIODE	MA8062-M
D601	8-719-988-62	DIODE	1SS355
D701	8-719-914-44	DIODE	DAP202K
D702	8-719-422-31	DIODE	MA8047-M-TX
D703	8-719-210-33	DIODE	EC10DS2
D704	8-719-422-64	DIODE	MA8062-M
D705	8-719-988-62	DIODE	1SS355
D706	8-719-914-44	DIODE	DAP202K
D707	8-719-988-62	DIODE	1SS355

SEE ADDITIONAL INFORMATION

HIDE

Ref. No.	Part No.	Description	Remark
D708	8-719-210-33	DIODE EC10DS2	
D709	8-719-022-90	DIODE MA8160M	
D710	8-719-210-33	DIODE EC10DS2	
D750	8-719-422-67	DIODE MA8062-H	
D751	8-719-988-62	DIODE 1SS355	
D752	8-719-422-97	DIODE MA8091-M	
D753	8-719-988-62	DIODE 1SS355	
		< IC >	
IC1	8-759-069-48	IC LA1061M	
IC2	8-759-823-81	IC LC7216M	
IC4	8-759-163-63	IC TDA7330BD-013TR(MDX-400RDS)	
IC5	8-759-062-66	IC TC7S66F (MDX-400RDS)	
IC6	8-759-062-66	IC TC7S66F (MDX-400RDS)	
IC301	8-752-063-44	IC CXA1646Q	
IC302	8-752-068-73	IC CXA1846M-T6	
IC303	8-759-711-82	IC NJM4580E	
IC304	8-759-711-82	IC NJM4580E	
IC305	8-759-711-82	IC NJM4580E	
IC306	8-759-064-92	IC NJM5532M-D	
IC307	8-759-064-92	IC NJM5532M-D	
IC501	8-759-269-91	IC uPD75517GF-267-3B9	
IC504	8-759-096-16	IC MM1175XFF	
IC601	8-759-255-76	IC MN1882417SNV(MDX-400)	
IC601	8-759-257-16	IC MN1883220SZC (MDX-400RDS)	
IC702	8-759-073-82	IC M62007FP	
		< JACK >	
J1	1-764-011-11	JACK, ANT	
J2	1-764-011-11	JACK, ANT	
		< JUMPER RESISTOR >	
JP1	1-216-296-00	METAL CHIP 0 5% 1/8W	
JP601	1-216-295-00	METAL CHIP 0 5% 1/10W	(MDX-400RDS)
JP602	1-216-295-00	METAL CHIP 0 5% 1/10W (MDX-400:US, Canadian/MDX-400RDS:AEP, UK)	
JP701	1-216-295-00	METAL CHIP 0 5% 1/10W	
		< COIL >	
L2	1-410-521-11	INDUCTOR 100uH	
L3	1-410-513-11	INDUCTOR 22uH	
L4	1-410-513-11	INDUCTOR 22uH (MDX-400RDS)	
L5	1-410-506-11	INDUCTOR 5.6uH	
L7	1-414-137-31	INDUCTOR 0.22uH	
L501	1-410-513-11	INDUCTOR 22uH	
L601	1-410-513-11	INDUCTOR 22uH	
L701	1-410-521-11	INDUCTOR 100uH	

Ref. No.	Part No.	Description	Remark
		< TRANSISTOR >	
Q2	8-729-421-19	TRANSISTOR UN2213	
Q3	8-729-216-22	TRANSISTOR 2SA1162-G	
Q4	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q5	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q6	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q7	8-729-021-94	TRANSISTOR 2SK1657-T1B	
Q8	8-729-920-85	TRANSISTOR 2SD1664-QR	
Q13	8-729-421-22	TRANSISTOR UN2211	
Q14	8-729-421-22	TRANSISTOR UN2211 (MDX-400RDS)	
Q15	8-729-424-08	TRANSISTOR UN2111 (MDX-400RDS)	
Q16	8-729-421-19	TRANSISTOR UN2213	
Q21	8-729-424-67	TRANSISTOR UN2216	
Q102	8-729-920-21	TRANSISTOR DTC314TKH04	
Q103	8-729-920-21	TRANSISTOR DTC314TKH04	
Q104	8-729-920-21	TRANSISTOR DTC314TKH04	
Q105	8-729-920-21	TRANSISTOR DTC314TKH04	
Q106	8-729-920-21	TRANSISTOR DTC314TKH04	
Q107	8-729-920-21	TRANSISTOR DTC314TKH04	
Q202	8-729-920-21	TRANSISTOR DTC314TKH04	
Q203	8-729-920-21	TRANSISTOR DTC314TKH04	
Q204	8-729-920-21	TRANSISTOR DTC314TKH04	
Q205	8-729-920-21	TRANSISTOR DTC314TKH04	
Q206	8-729-920-21	TRANSISTOR DTC314TKH04	
Q207	8-729-920-21	TRANSISTOR DTC314TKH04	
Q301	8-729-424-12	TRANSISTOR UN2112	
Q302	8-729-424-12	TRANSISTOR UN2112	
Q501	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q502	8-729-424-18	TRANSISTOR UN2113	
Q503	8-729-424-18	TRANSISTOR UN2113	
Q601	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q701	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q702	8-729-424-12	TRANSISTOR UN2112	
Q703	8-729-920-21	TRANSISTOR DTC314TKH04	
Q704	8-729-421-22	TRANSISTOR UN2211	
Q705	8-729-421-22	TRANSISTOR UN2211	
Q706	8-729-424-08	TRANSISTOR UN2111	
Q707	8-729-421-22	TRANSISTOR UN2211	
Q708	8-729-421-19	TRANSISTOR UN2213	
Q709	8-729-902-99	TRANSISTOR DTC114TK	
Q750	8-729-105-29	TRANSISTOR 2SA1385-L	
Q751	8-729-920-85	TRANSISTOR 2SD1664-QR	
Q752	8-729-424-59	TRANSISTOR UN2212	
Q753	8-729-921-49	TRANSISTOR 2SD1760F5-R	
Q754	8-729-904-60	TRANSISTOR DTB113ZK	
Q755	8-729-424-59	TRANSISTOR UN2212	
Q756	8-729-904-60	TRANSISTOR DTB113ZK	
Q757	8-729-424-59	TRANSISTOR UN2212	

HIDE

Ref.No.	Part No.	Description	Remark
Q758	8-729-106-60	TRANSISTOR 2SB1115A	
Q759	8-729-424-59	TRANSISTOR UN2212	
		< RESISTOR >	
R1	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R2	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R4	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R5	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R6	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R7	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R8	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R9	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R10	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R11	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R12	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R13	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R14	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R15	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
R16	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R17	1-216-091-00	METAL CHIP 56K 5% 1/10W	
R18	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R19	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R20	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R21	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R22	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R23	1-216-073-00	METAL CHIP 10K 5% 1/10W	(MDX-400)
R23	1-216-075-00	METAL CHIP 12K 5% 1/10W	(MDX-400RDS)
R24	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R25	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R26	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R27	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R43	1-216-295-00	METAL CHIP 0 5% 1/10W	(MDX-400RDS)
R44	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	(MDX-400RDS)
R45	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R46	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R49	1-216-295-00	METAL CHIP 0 5% 1/10W	
R50	1-216-295-00	METAL CHIP 0 5% 1/10W	
R56	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R57	1-216-073-00	METAL CHIP 10K 5% 1/10W	(MDX-400RDS)
R58	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(MDX-400RDS:AEP, UK)
R58	1-216-073-00	METAL CHIP 10K 5% 1/10W	(MDX-400RDS:G)
R59	1-216-089-11	METAL GLAZE 47K 5% 1/10W	(MDX-400RDS)

Ref.No.	Part No.	Description	Remark
R60	1-216-025-00	METAL CHIP 100 5% 1/10W	(MDX-400)
R60	1-216-049-00	METAL CHIP 1K 5% 1/10W	(MDX-400RDS)
R61	1-216-097-00	METAL CHIP 100K 5% 1/10W	(MDX-400RDS)
R62	1-216-129-00	METAL CHIP 2.2M 5% 1/10W	(MDX-400RDS)
R64	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R70	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R71	1-216-295-00	METAL CHIP 0 5% 1/10W	(MDX-400RDS)
R72	1-216-295-00	METAL CHIP 0 5% 1/10W	(MDX-400RDS)
R74	1-216-295-00	METAL CHIP 0 5% 1/10W	
R101	1-216-186-00	METAL GLAZE 330 2% 1/8W	
R102	1-216-186-00	METAL GLAZE 330 2% 1/8W	
R103	1-216-230-00	METAL GLAZE 22K 2% 1/8W	
R104	1-216-230-00	METAL GLAZE 22K 2% 1/8W	
R105	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R106	1-216-089-11	METAL GLAZE 47K 5% 1/10W	
R107	1-216-238-00	METAL GLAZE 47K 2% 1/8W	
R108	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R109	1-208-486-41	METAL GLAZE 1K 2% 1/8W	(MDX-400:US, Canadian)
R109	1-216-214-00	METAL GLAZE 4.7K 2% 1/8W	(MDX-400:E)
R109	1-216-662-11	METAL CHIP 3K 0.5% 1/10W	(MDX-400RDS)
R114	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R115	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R116	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R117	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R118	1-208-486-41	METAL GLAZE 1K 2% 1/8W	
R119	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R120	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R121	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R122	1-208-486-41	METAL GLAZE 1K 2% 1/8W	
R123	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R126	1-216-655-11	METAL CHIP 1.5K 0.5% 1/10W	
R127	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R128	1-216-080-00	METAL CHIP 20K 5% 1/10W	(MDX-400:US, Canadian)
R128	1-216-074-00	METAL CHIP 11K 5% 1/10W	(MDX-400:E/MDX-400RDS:AEP, UK)
R128	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	(MDX-400RDS:G)
R129	1-216-081-00	METAL CHIP 22K 5% 1/10W	(MDX-400/MDX-400RDS:AEP, UK)
R129	1-216-105-00	METAL CHIP 220K 5% 1/10W	(MDX-400RDS:G)

Ref. No.	Part No.	Description	Remark
R130	1-216-238-00	METAL GLAZE 47K 2% 1/8W	
R131	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R132	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R133	1-208-478-11	METAL GLAZE 470 2% 1/8W	
R134	1-208-478-11	METAL GLAZE 470 2% 1/8W	
R137	1-216-219-00	METAL GLAZE 7.5K 2% 1/8W	
R138	1-216-219-00	METAL GLAZE 7.5K 2% 1/8W	
R139	1-216-174-00	METAL GLAZE 100 2% 1/8W	
R141	1-216-662-11	METAL CHIP 3K 0.5% 1/10W	
R142	1-216-662-11	METAL CHIP 3K 0.5% 1/10W	
R201	1-216-186-00	METAL GLAZE 330 2% 1/8W	
R202	1-216-186-00	METAL GLAZE 330 2% 1/8W	
R203	1-216-230-00	METAL GLAZE 22K 2% 1/8W	
R204	1-216-230-00	METAL GLAZE 22K 2% 1/8W	
R205	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R206	1-216-089-11	METAL GLAZE 47K 5% 1/10W	
R207	1-216-238-00	METAL GLAZE 47K 2% 1/8W	
R208	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R209	1-208-486-41	METAL GLAZE 1K 2% 1/8W	(MDX-400:US, Canadian)
R209	1-216-214-00	METAL GLAZE 4.7K 2% 1/8W	(MDX-400:E)
R209	1-216-662-11	METAL CHIP 3K 0.5% 1/10W	(MDX-400RDS)
R214	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R215	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R216	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R217	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R218	1-208-486-41	METAL GLAZE 1K 2% 1/8W	
R219	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R220	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R221	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R222	1-208-486-41	METAL GLAZE 1K 2% 1/8W	
R223	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R226	1-216-655-11	METAL CHIP 1.5K 0.5% 1/10W	
R227	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R228	1-216-080-00	METAL CHIP 20K 5% 1/10W	(MDX-400:US, Canadian)
R228	1-216-074-00	METAL CHIP 11K 5% 1/10W	(MDX-400:E/MDX-400RDS:AEP, UK)
R228	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	(MDX-400RDS:G)
R229	1-216-081-00	METAL CHIP 22K 5% 1/10W	(MDX-400/MDX-400RDS:AEP, UK)
R229	1-216-105-00	METAL CHIP 220K 5% 1/10W	(MDX-400RDS:G)
R230	1-216-238-00	METAL GLAZE 47K 2% 1/8W	
R231	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R232	1-216-222-00	METAL GLAZE 10K 2% 1/8W	
R233	1-208-478-11	METAL GLAZE 470 2% 1/8W	
R234	1-208-478-11	METAL GLAZE 470 2% 1/8W	
R237	1-216-219-00	METAL GLAZE 7.5K 2% 1/8W	
R238	1-216-219-00	METAL GLAZE 7.5K 2% 1/8W	
R239	1-216-174-00	METAL GLAZE 100 2% 1/8W	
R241	1-216-662-11	METAL CHIP 3K 0.5% 1/10W	
R242	1-216-662-11	METAL CHIP 3K 0.5% 1/10W	
R301	1-216-295-00	METAL CHIP 0 5% 1/10W	
R503	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R504	1-216-089-11	METAL GLAZE 47K 5% 1/10W	
R505	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R507	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R508	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R509	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R510	1-216-041-00	METAL CHIP 470 5% 1/10W	
R511	1-216-041-00	METAL CHIP 470 5% 1/10W	
R512	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R513	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R515	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R526	1-216-089-11	METAL GLAZE 47K 5% 1/10W	
R527	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R528	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R529	1-216-025-00	METAL CHIP 100 5% 1/10W	
R530	1-216-025-00	METAL CHIP 100 5% 1/10W	
R531	1-216-025-00	METAL CHIP 100 5% 1/10W	
R532	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R541	1-216-105-00	METAL CHIP 220K 5% 1/10W	(MDX-400:US, Canadian)
R541	1-216-097-00	METAL CHIP 100K 5% 1/10W	(MDX-400:E, MDX-400RDS)
R543	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R545	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R546	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R547	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R548	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R601	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R602	1-216-089-11	METAL GLAZE 47K 5% 1/10W	
R603	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R604	1-216-097-00	METAL CHIP 100K 5% 1/10W	(MDX-400:E/MDX-400RDS:G)
R605	1-216-097-00	METAL CHIP 100K 5% 1/10W	(MDX-400)
R606	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R607	1-216-089-11	METAL GLAZE 47K 5% 1/10W	
R608	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R609	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R610	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R611	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R612	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R613	1-216-113-00	METAL CHIP 470K 5% 1/10W	

Ref. No.	Part No.	Description			Remark
R614	1-216-113-00	METAL CHIP	470K	5%	1/10W
R701	1-216-097-00	METAL CHIP	100K	5%	1/10W
R704	1-216-097-00	METAL CHIP	100K	5%	1/10W
R705	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R706	1-216-073-00	METAL CHIP	10K	5%	1/10W
R708	1-216-077-00	METAL CHIP	15K	5%	1/10W
R710	1-216-041-00	METAL CHIP	470	5%	1/10W
R711	1-216-097-00	METAL CHIP	100K	5%	1/10W
R712	1-216-073-00	METAL CHIP	10K	5%	1/10W
R713	1-216-073-00	METAL CHIP	10K	5%	1/10W
R714	1-216-073-00	METAL CHIP	10K	5%	1/10W
R750	1-216-073-00	METAL CHIP	10K	5%	1/10W
R751	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R752	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R753	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R754	1-216-073-00	METAL CHIP	10K	5%	1/10W
R755	1-216-033-00	METAL CHIP	220	5%	1/10W
R756	1-216-045-00	METAL CHIP	680	5%	1/10W
R759	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R760	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R761	1-216-073-00	METAL CHIP	10K	5%	1/10W
R762	1-216-033-00	METAL CHIP	220	5%	1/10W
R763	1-216-049-00	METAL CHIP	1K	5%	1/10W

< VARIABLE RESISTOR >

RV601	1-241-767-21	RES, ADJ, CARBON 100K

< SWITCH >

S1	1-572-272-11	SWITCH, SLIDE(DIVERSITY)
S501	1-572-272-11	SWITCH, SLIDE(POWER SEL ON/OFF)
S503	1-571-532-32	SWITCH, TACTIL(RESET)
S601	1-572-272-11	SWITCH, SLIDE(MDX-400:E)

< THERMISTOR >

TH750	1-809-148-11	THERMISTOR PTH8L07AR2R0M1B510
TH751	1-809-148-11	THERMISTOR PTH8L07AR2R0M1B510

< CRYSTAL >

X1	1-567-848-11	VIBRATOR, CRYSTAL(7.2MHz)
X3	1-579-242-11	VIBRATOR, CRYSTAL (4.3MHz)(MDX-400RDS)
X501	1-567-861-21	VIBRATOR, CRYSTAL(4.19MHz)
X601	1-579-952-21	VIBRATOR, CERAMIC(8MHz)

****

* 1-651-110-12 LAMP BOARD

****

< CONNECTOR >

CNP313	1-764-377-31	CONNECTOR, BOARD TO BOARD 6P

< PILOT LAMP >

PL301	1-517-181-31	LAMP, PILOT(BACK LIGHT)

****

A-3222-672-A MAIN BOARD, COMPLETE(MDX-400)

****

A-3222-752-A MAIN BOARD, COMPLETE(MDX-400RDS)

****

3-911-121-01 SPACER (BUZZER)

< BUZZER >

BZ301	1-529-095-31	SOUNDER, PIEZOELECTRIC

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C101	1-104-518-11	ELECT CHIP	10uF	20%	16V
C102	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C103	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C104	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C105	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C106	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C201	1-104-518-11	ELECT CHIP	10uF	20%	16V
C202	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C203	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C204	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C205	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C206	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C303	1-104-518-11	ELECT CHIP	10uF	20%	16V
C304	1-107-767-21	ELECT CHIP	100uF	0	6.3V
C305	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C306	1-104-518-11	ELECT CHIP	10uF	20%	16V
C307	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C308	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C309	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C310	1-107-767-21	ELECT CHIP	100uF	0	6.3V
C311	1-135-227-11	TANTAL. CHIP	100uF	20%	6.3V
C312	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C313	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C314	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C315	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C316	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C317	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V
C318	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C319	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C320	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C321	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C322	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C323	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C325	1-163-986-00	CERAMIC CHIP	0.027uF	10%	25V

SEE ADDITIONAL INFORMATION

Ref. No.	Part No.	Description			Remark
C326	1-162-568-11	CERAMIC CHIP	0.33uF	10%	16V
C327	1-162-568-11	CERAMIC CHIP	0.33uF	10%	16V
C328	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C329	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C330	1-107-778-21	ELECT CHIP	470uF	20%	16V
C331	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C332	1-125-701-11	CAP, DOUBLE LAYER			0.047F
C333	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C334	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C335	1-107-767-21	ELECT CHIP	100uF	0	6.3V
C336	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C337	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C338	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C339	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C340	1-162-568-11	CERAMIC CHIP	0.33uF	10%	16V
C342	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C343	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C344	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C345	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C346	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C347	1-162-568-11	CERAMIC CHIP	0.33uF	10%	16V
C348	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C349	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C350	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C351	1-162-568-11	CERAMIC CHIP	0.33uF	10%	16V
C352	1-162-568-11	CERAMIC CHIP	0.33uF	10%	16V
C353	1-162-568-11	CERAMIC CHIP	0.33uF	10%	16V
C354	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C355	1-162-568-11	CERAMIC CHIP	0.33uF	10%	16V
C356	1-128-242-11	ELECT CHIP	47uF	0	16V
C357	1-128-242-11	ELECT CHIP	47uF	0	16V
C358	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C359	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C360	1-107-767-21	ELECT CHIP	100uF	0	6.3V
C361	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C362	1-107-767-21	ELECT CHIP	100uF	0	6.3V
C363	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C364	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C365	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C366	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C367	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C368	1-128-590-21	ELECT CHIP	100uF	20%	6.3V
C369	1-128-590-21	ELECT CHIP	100uF	20%	6.3V
C370	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C371	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C372	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C373	1-104-607-11	ELECT CHIP	47uF	20%	16V
C374	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C375	1-162-959-11	CERAMIC CHIP	330PF	5%	50V

Ref. No.	Part No.	Description			Remark
C376	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C377	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C378	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C379	1-162-958-11	CERAMIC CHIP	270PF	5%	50V
C380	1-104-607-11	ELECT CHIP	47uF	20%	16V
C381	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C382	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C383	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C384	1-128-590-21	ELECT CHIP	100uF	20%	6.3V
C385	1-135-227-11	TANTAL. CHIP	100uF	20%	6.3V
C386	1-164-346-11	CERAMIC CHIP	1uF		16V
C387	1-104-607-11	ELECT CHIP	47uF	20%	16V
C388	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C389	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C390	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C391	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C392	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C396	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C397	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V
C399	1-164-156-11	CERAMIC CHIP	0.1uF		25V (MDX-400)
C401	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C402	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C403	1-163-033-00	CERAMIC CHIP	0.022uF		50V

< CONNECTOR >

CNP302	1-764-585-11	PIN, CONNECTOR (PC BOARD) 12P
CNP303	1-764-376-31	CONNECTOR, BOARD TO BOARD 6P
CNP305	1-569-030-11	CONNECTOR, FPC (ZIF) 21P
CNP306	1-566-533-11	CONNECTOR, FPC (ZIF) 17P
CNP307	1-568-238-11	CONNECTOR, FPC (1.0MM)(ZIF)16P
CNP309	1-566-524-11	CONNECTOR, FPC (ZIF) 8P
CNP311	1-580-438-21	CONNECTOR, FPC 4P
CNP312	1-764-376-31	CONNECTOR, BOARD TO BOARD 6P

< DIODE >

D303	8-719-975-40	DIODE	RB411D
D304	8-719-422-64	DIODE	MA8062-M
D305	8-719-422-64	DIODE	MA8062-M
D306	8-719-422-64	DIODE	MA8062-M
D307	8-719-016-74	DIODE	1SS352
D308	8-719-422-64	DIODE	MA8062-M
D309	8-719-914-44	DIODE	DAP202K
D310	8-719-016-74	DIODE	1SS352
D311	8-719-914-44	DIODE	DAP202K
D312	8-719-914-44	DIODE	DAP202K
D313	8-719-975-40	DIODE	RB411D
D314	8-719-423-21	DIODE	MA8110-L-TX
D315	8-719-423-21	DIODE	MA8110-L-TX

Ref. No.	Part No.	Description	Remark
D316	8-719-423-21	DIODE MA8110-L-TX	
D317	8-719-422-97	DIODE MA8091-M	
D318	8-719-975-33	DIODE RB110C	
D319	8-719-975-33	DIODE RB110C	
D320	8-719-422-64	DIODE MA8062-M	
D321	8-719-016-74	DIODE 1SS352	
D324	8-719-423-21	DIODE MA8110-L-TX	
D330	8-719-422-64	DIODE MA8062-M	
D330	8-719-901-33	DIODE 1SS133T	
D331	8-719-422-64	DIODE MA8062-M	
D331	8-719-901-33	DIODE 1SS133T	
D332	8-719-422-64	DIODE MA8062-M	
D333	8-719-422-64	DIODE MA8062-M	
D334	8-719-422-64	DIODE MA8062-M	
D335	8-719-422-64	DIODE MA8062-M	
D336	8-719-422-64	DIODE MA8062-M	

< FERRITE BEAD >

Ref. No.	Part No.	Description	Remark
FB302	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB304	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB305	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB307	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB309	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB310	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB311	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB312	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB313	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB314	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB315	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB316	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB317	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB318	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB319	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB320	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB321	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB322	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB323	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB330	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB331	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB332	1-414-235-11	INDUCTOR, FERRITE BEAD	
FB333	1-414-235-11	INDUCTOR, FERRITE BEAD	

< IC >

Ref. No.	Part No.	Description	Remark
IC101	8-759-603-13	IC M5218FP-T1	
IC101	8-759-636-55	IC M5218AFP	
IC201	8-759-603-13	IC M5218FP-T1	
IC201	8-759-636-55	IC M5218AFP	
IC301	8-759-197-12	IC AK4318-VS-E1	
IC302	8-752-365-90	IC CXD2531BR	
IC303	8-759-925-90	IC SN74HC74ANS	
IC303	8-759-032-23	IC MC74HC74AF	
IC304	8-752-354-50	IC CXK414400TM-80	
IC304	8-752-354-52	IC CXK414400TM-12	
IC305	8-752-363-57	IC CXD2526AR	
IC306	8-752-352-18	IC CXD2525R	
IC307	8-759-234-77	IC TC4S66F	
IC308	8-759-096-18	IC MM1176XFF	
IC309	8-759-940-45	IC S-8054HN-CB	
IC310	8-759-269-90	IC uPD78056YGC-W14-3B9	
IC311	8-752-062-98	IC CXA1082BQ-T6	
IC312	8-759-166-64	IC M5291FP-T1	
IC313	8-759-300-71	IC HD14053BFP	
IC314	8-759-990-43	IC TL1451ACDB	
IC315	8-759-925-80	IC SN74HC14ANS	

< COIL >

Ref. No.	Part No.	Description	Remark
L301	1-410-197-11	INDUCTOR CHIP 2.7uH	
L302	1-412-125-11	INDUCTOR 220uH	
L303	1-412-125-11	INDUCTOR 220uH	
L304	1-412-125-11	INDUCTOR 220uH	
L305	1-403-584-11	COIL, CHIP CHOKE 33uH	
L306	1-403-584-11	COIL, CHIP CHOKE 33uH	
L307	1-403-584-11	COIL, CHIP CHOKE 33uH	
L308	1-403-584-11	COIL, CHIP CHOKE 33uH	
L309	1-403-584-11	COIL, CHIP CHOKE 33uH	
L310	1-403-584-11	COIL, CHIP CHOKE 33uH	

< FILTER >

Ref. No.	Part No.	Description	Remark
NF301	1-239-466-21	FILTER, EMI	

< IC LINK >

Ref. No.	Part No.	Description	Remark
PS301	1-533-397-11	RINK, CHIP IC	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q101	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q201	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q301	8-729-403-35	TRANSISTOR UN5113	
Q302	8-729-808-01	TRANSISTOR 2SD1622-S	
Q303	8-729-403-35	TRANSISTOR UN5113	
Q304	8-729-015-76	TRANSISTOR UN5211	
Q305	8-729-015-76	TRANSISTOR UN5211	
Q306	8-729-015-76	TRANSISTOR UN5211	
Q307	8-729-020-67	TRANSISTOR XN1A312-TX	
Q309	8-729-921-49	TRANSISTOR 2SD1760F5-R	
Q310	8-729-921-49	TRANSISTOR 2SD1760F5-R	
Q311	8-729-020-67	TRANSISTOR XN1A312-TX	

SEE ADDITIONAL INFORMATION

Ref. No.	Part No.	Description	Remark
Q312	8-729-020-67	TRANSISTOR XN1A312-TX	
Q313	8-729-921-49	TRANSISTOR 2SD1760F5-R	
Q314	8-729-821-62	TRANSISTOR 2SB1203FAS	
Q314	8-729-821-63	TRANSISTOR 2SB1203FAT	
Q315	8-729-015-76	TRANSISTOR UN5211	
Q316	8-729-808-01	TRANSISTOR 2SD1622-S	
Q317	8-729-821-62	TRANSISTOR 2SB1203FAS	
Q317	8-729-821-63	TRANSISTOR 2SB1203FAT	
Q318	8-729-920-53	TRANSISTOR FMY1	
Q320	8-729-920-53	TRANSISTOR FMY1	
Q322	8-729-821-62	TRANSISTOR 2SB1203FAS	
Q322	8-729-821-63	TRANSISTOR 2SB1203FAT	
Q323	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q324	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q325	8-729-020-67	TRANSISTOR XN1A312-TX	
Q326	8-729-020-67	TRANSISTOR XN1A312-TX	
Q327	8-729-402-45	TRANSISTOR UN5212	
Q328	8-729-015-76	TRANSISTOR UN5211	
Q329	8-729-015-76	TRANSISTOR UN5211	
Q330	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q331	8-729-020-67	TRANSISTOR XN1A312-TX	
		< RESISTOR >	
R101	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R102	1-216-699-11	METAL CHIP 100K 0.5% 1/10W	
R103	1-216-182-00	METAL GLAZE 220 2% 1/8W	
R104	1-216-219-00	METAL GLAZE 7.5K 2% 1/8W	
R105	1-216-216-00	METAL GLAZE 5.6K 2% 1/8W	
R106	1-216-216-00	METAL GLAZE 5.6K 2% 1/8W	
R107	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R108	1-216-230-00	METAL GLAZE 22K 2% 1/8W	
R109	1-216-230-00	METAL GLAZE 22K 2% 1/8W	
R110	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R201	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R202	1-216-699-11	METAL CHIP 100K 0.5% 1/10W	
R203	1-216-182-00	METAL GLAZE 220 2% 1/8W	
R204	1-216-219-00	METAL GLAZE 7.5K 2% 1/8W	
R205	1-216-216-00	METAL GLAZE 5.6K 2% 1/8W	
R206	1-216-216-00	METAL GLAZE 5.6K 2% 1/8W	
R207	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R208	1-216-230-00	METAL GLAZE 22K 2% 1/8W	
R209	1-216-230-00	METAL GLAZE 22K 2% 1/8W	
R210	1-216-679-11	METAL CHIP 15K 0.5% 1/10W	
R301	1-216-815-11	METAL CHIP 330 5% 1/16W	
R302	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R303	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R304	1-216-017-00	METAL CHIP 47 5% 1/10W	
R305	1-216-049-00	METAL CHIP 1K 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R306	1-249-425-11	CARBON 4.7K 5% 1/4W	
R307	1-216-001-00	METAL CHIP 10 5% 1/10W	
R308	1-216-001-00	METAL CHIP 10 5% 1/10W	
R309	1-216-090-00	METAL CHIP 51K 5% 1/10W	
R310	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R311	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R312	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R313	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R314	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R315	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R316	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R317	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R318	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R319	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R320	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R321	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R322	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R323	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R324	1-216-089-11	METAL GLAZE 47K 5% 1/10W	
R325	1-216-089-11	METAL GLAZE 47K 5% 1/10W	
R326	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R327	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R328	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R329	1-216-817-11	METAL CHIP 470 5% 1/16W	
R330	1-216-089-11	METAL GLAZE 47K 5% 1/10W	
R331	1-216-037-00	METAL CHIP 330 5% 1/10W	
R332	1-216-037-00	METAL CHIP 330 5% 1/10W	
R333	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R334	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R335	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R336	1-218-716-11	METAL CHIP 10K 0.50% 1/16W	
R337	1-216-097-00	METAL CHIP 100K 5% 1/10W	(MDX-400RDS)
R338	1-216-295-00	METAL CHIP 0 5% 1/10W	(MDX-400)
R338	1-216-093-00	METAL CHIP 68K 5% 1/10W	(MDX-400RDS)
R339	1-216-073-00	METAL CHIP 10K 5% 1/10W	(MDX-400)
R339	1-216-097-00	METAL CHIP 100K 5% 1/10W	(MDX-400RDS)
R340	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R341	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R342	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R343	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R344	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R345	1-216-114-00	METAL GLAZE 510K 5% 1/10W	
R346	1-216-089-11	METAL GLAZE 47K 5% 1/10W	
R347	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R348	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	

Ref. No.	Part No.	Description				Remark
R349	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R350	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R351	1-216-089-11	METAL GLAZE	47K	5%	1/10W	
R352	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R353	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R354	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R355	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R356	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R357	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R358	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W	
R359	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W	
R360	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R362	1-216-103-91	METAL GLAZE	180K	5%	1/10W	
R363	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R364	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R365	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R366	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R367	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R368	1-216-805-11	METAL CHIP	47	5%	1/16W	
R369	1-216-805-11	METAL CHIP	47	5%	1/16W	
R370	1-216-819-11	METAL CHIP	680	5%	1/16W	
R371	1-216-819-11	METAL CHIP	680	5%	1/16W	
R372	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R373	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R374	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R375	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R376	1-216-819-11	METAL CHIP	680	5%	1/16W	
R377	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R378	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R379	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R380	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R381	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R382	1-216-805-11	METAL CHIP	47	5%	1/16W	
R383	1-218-716-11	METAL CHIP	10K	0.50%	1/16W	
R384	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W	
R385	1-216-805-11	METAL CHIP	47	5%	1/16W	
R386	1-216-822-11	METAL CHIP	1.2K	5%	1/16W	
R387	1-216-822-11	METAL CHIP	1.2K	5%	1/16W	
R388	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R389	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R390	1-216-819-11	METAL CHIP	680	5%	1/16W	
R391	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R392	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R393	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	
R394	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R395	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R396	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R397	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R398	1-216-821-11	METAL CHIP	1K	5%	1/16W	

Ref. No.	Part No.	Description				Remark
R399	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R400	1-216-819-11	METAL CHIP	680	5%	1/16W	
R401	1-216-805-11	METAL CHIP	47	5%	1/16W	
R402	1-216-822-11	METAL CHIP	1.2K	5%	1/16W	
R403	1-216-822-11	METAL CHIP	1.2K	5%	1/16W	
R404	1-216-805-11	METAL CHIP	47	5%	1/16W	
R405	1-218-716-11	METAL CHIP	10K	0.50%	1/16W	
R406	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W	
R407	1-216-089-11	METAL GLAZE	47K	5%	1/10W	
R408	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R409	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R410	1-216-089-11	METAL GLAZE	47K	5%	1/10W	
R411	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R412	1-216-089-11	METAL GLAZE	47K	5%	1/10W	
R413	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R414	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R415	1-216-033-00	METAL CHIP	220	5%	1/10W	
R416	1-218-692-11	METAL CHIP	1K	0.50%	1/16W	
R417	1-218-704-11	METAL CHIP	3.3K	0.50%	1/16W	
R418	1-216-038-00	METAL CHIP	360	5%	1/10W	
R419	1-216-038-00	METAL CHIP	360	5%	1/10W	
R420	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R422	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R424	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R425	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R426	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R427	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R428	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R429	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R430	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R431	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R432	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R433	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R434	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R435	1-216-198-91	METAL GLAZE	1K	5%	1/8W	
R436	1-216-198-91	METAL GLAZE	1K	5%	1/8W	
R437	1-216-198-91	METAL GLAZE	1K	5%	1/8W	
R438	1-216-198-91	METAL GLAZE	1K	5%	1/8W	
R439	1-216-198-91	METAL GLAZE	1K	5%	1/8W	
R440	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R441	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R442	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R443	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R444	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R445	1-216-815-11	METAL CHIP	330	5%	1/16W	
R446	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R447	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R448	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R449	1-216-821-11	METAL CHIP	1K	5%	1/16W	

Ref. No.	Part No.	Description			Remark
R450	1-216-097-00	METAL CHIP	100K	5%	1/10W
R601	1-216-041-00	METAL CHIP	470	5%	1/10W
R602	1-216-821-11	METAL CHIP	1K	5%	1/16W
R603	1-216-057-00	METAL CHIP	2.2K	5%	1/10W

< SWITCH >

Ref. No.	Part No.	Description
SW301	1-571-506-41	SWITCH, SLIDE
SW303	1-572-272-11	SWITCH, SLIDE

< THERMISTOR >

Ref. No.	Part No.	Description
TH301	1-808-656-11	THERMISTOR
TH302	1-808-656-11	THERMISTOR

< CRYSTAL >

Ref. No.	Part No.	Description
X301	1-760-168-11	VIBRATOR, CRYSTAL(45MHz)
X302	1-579-841-21	VIBRATOR, CERAMIC (CHIP TYPE)(5MHz)

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* A-3295-872-A ROTARY BOARD, COMPLETE

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< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C501	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C502	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V
C503	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C504	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C505	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C506	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C507	1-135-161-21	TANTALUM CHIP	22uF	10%	10V
C508	1-135-161-21	TANTALUM CHIP	22uF	10%	10V
C509	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C510	1-135-161-21	TANTALUM CHIP	22uF	10%	10V
C511	1-135-161-21	TANTALUM CHIP	22uF	10%	10V
C512	1-162-946-11	CERAMIC CHIP	27PF	5%	50V
C513	1-135-161-21	TANTALUM CHIP	22uF	10%	10V
C514	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C515	1-162-979-11	CERAMIC CHIP	0.0027uF	10%	50V
C516	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C517	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C518	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C519	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C520	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C521	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C522	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C523	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C524	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C525	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C526	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C527	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C528	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C529	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C530	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C531	1-164-346-11	CERAMIC CHIP	1uF		16V
C532	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C533	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C534	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C535	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C536	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C537	1-135-166-21	TANTALUM CHIP	47uF	10%	10V

< CONNECTOR >

Ref. No.	Part No.	Description
CNP501	1-566-533-11	CONNECTOR, FPC (ZIF) 17P
CNP502	1-566-532-11	CONNECTOR, FPC (ZIF) 16P
CNP503	1-580-438-21	CONNECTOR, FPC 4P
CNP504	1-568-238-11	CONNECTOR, FPC (1.0MM)(ZIF)16P
CNP505	1-750-575-11	SOCKET, CONNECTOR 6P
CNP507	1-580-438-21	CONNECTOR, FPC 4P
* CNP508	1-580-055-11	PIN, CONNECTOR 2P
CNP509	1-580-055-21	PIN, CONNECTOR 2P
* CNP511	1-580-055-11	PIN, CONNECTOR 2P
CNP512	1-580-055-21	PIN, CONNECTOR 2P

< DIODE >

Ref. No.	Part No.	Description	
D501	8-719-016-74	DIODE	1SS352
D502	8-719-016-74	DIODE	1SS352
D503	8-719-210-33	DIODE	EC10DS2

< IC >

Ref. No.	Part No.	Description	
IC501	8-752-064-33	IC	CXA1380N
IC502	8-759-234-77	IC	TC4S66F
IC503	8-759-234-77	IC	TC4S66F
IC504	8-752-064-34	IC	CXA1381R
IC505	8-759-234-77	IC	TC4S66F
IC506	8-759-084-72	IC	MPC1718FU
IC508	8-759-040-83	IC	BA6287F
IC509	8-759-082-61	IC	TC4W53FU

< COIL >

Ref. No.	Part No.	Description	
L501	1-412-039-51	INDUCTOR CHIP	100uH
L502	1-412-039-51	INDUCTOR CHIP	100uH
L503	1-412-039-51	INDUCTOR CHIP	100uH
L504	1-412-039-51	INDUCTOR CHIP	100uH
L505	1-410-375-11	INDUCTOR CHIP	3.3uH

< TRANSISTOR >

Ref. No.	Part No.	Description	
Q501	8-729-403-35	TRANSISTOR	UN5113
Q502	8-729-106-60	TRANSISTOR	2SB1115A
Q503	8-729-015-76	TRANSISTOR	UN5211
Q504	8-729-015-76	TRANSISTOR	UN5211

ROTARY ROTARY COMMANDER

Ref. No.	Part No.	Description	Remark
Q505	8-729-106-60	TRANSISTOR 2SB1115A	
Q506	8-729-015-76	TRANSISTOR UN5211	
Q507	8-729-808-01	TRANSISTOR 2SD1622-S	
		< RESISTOR >	
R501	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R502	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R503	1-220-372-11	METAL GLAZE 200K 5% 1/16W	
R504	1-220-372-11	METAL GLAZE 200K 5% 1/16W	
R505	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R506	1-218-448-11	METAL GLAZE 430K 5% 1/16W	
R507	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R508	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R509	1-218-347-11	METAL GLAZE 91K 5% 1/16W	
R510	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R511	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R512	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R513	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R514	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R515	1-216-819-11	METAL CHIP 680 5% 1/16W	
R516	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R519	1-216-849-11	METAL CHIP 220K 5% 1/16W	
R520	1-218-331-11	METAL GLAZE 51K 5% 1/16W	
R521	1-216-813-11	METAL CHIP 220 5% 1/16W	
R522	1-218-344-11	METAL GLAZE 7.5K 5% 1/16W	
R523	1-218-344-11	METAL GLAZE 7.5K 5% 1/16W	
R524	1-216-993-11	METAL GLAZE 2.4K 5% 1/16W	
R525	1-216-800-11	METAL GLAZE 18 5% 1/16W	
R526	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R527	1-218-354-11	METAL GLAZE 160 5% 1/16W	
R528	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R529	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R530	1-216-809-11	METAL CHIP 100 5% 1/16W	
R531	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R532	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R533	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R534	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R536	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R537	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R538	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R539	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R540	1-216-833-11	METAL CHIP 10K 5% 1/16W	
		< VARIABLE RESISTOR >	
RV501	1-241-225-11	RES, ADJ, METAL GRAZE 22K	
RV502	1-241-223-11	RES, ADJ, METAL GRAZE 4.7K	
RV503	1-241-223-11	RES, ADJ, METAL GRAZE 4.7K	
RV504	1-241-225-11	RES, ADJ, METAL GRAZE 22K	
RV505	1-241-225-11	RES, ADJ, METAL GRAZE 22K	

Ref. No.	Part No.	Description	Remark
RV506	1-241-223-11	RES, ADJ, METAL GRAZE 4.7K	
RV507	1-241-223-11	RES, ADJ, METAL GRAZE 4.7K	
RV508	1-241-223-11	RES, ADJ, METAL GRAZE 4.7K	
		< THERMISTOR >	
TH501	1-808-656-11	THERMISTOR	

****

9-905-297-01 ROTARY COMMANDER BOARD, COMPLETE

****

Ref. No.	Part No.	Description	Remark
		< RESISTOR >	
R1	1-216-649-11	METAL FILM(CHIP) 68K 0.5% 1/10W	
R2	1-216-651-11	METAL FILM(CHIP) 1K 0.5% 1/10W	
R3	1-216-653-11	NETAL FILM(CHIP) 1.2K 0.5% 1/10W	
R4	1-216-655-11	METAL FILM(CHIP) 1.5K 0.5% 1/10W	
R5	1-216-657-11	METAL FILM(CHIP) 1.8K 0.5% 1/10W	
R6	1-216-659-11	METAL FILM(CHIP) 2.2K 0.5% 1/10W	
R7	1-216-663-11	METAL FILM(CHIP) 3.3K 0.5% 1/10W	
R8	1-216-665-11	METAL FILM(CHIP) 3.9K 0.5% 1/10W	
R9	1-216-671-11	METAL FILM(CHIP) 6.8K 0.5% 1/10W	
R10	1-216-675-11	METAL FILM(CHIP) 10K 0.5% 1/10W	
R11	1-216-683-11	METAL FILM(CHIP) 22K 0.5% 1/10W	
R12	1-216-695-11	METAL FILM(CHIP) 68K 0.5% 1/10W	
		< SWITCH >	
SW1	1-554-088-00	SWITCH, KEY BOARD C (BTM SCRL SENS)	
SW2	9-905-300-01	SWITCH, KEY BOARD A (SOURCE)	
SW3	1-554-088-00	SWITCH, KEY BOARD C (MUTE)	
SW4	1-554-088-00	SWITCH, KEY BOARD C (MODE)	
SW11	1-554-088-00	SWITCH, KEY BOARD C (OFF)	
SW12	9-905-299-01	SWITCH, KEY BOARD B (SEL)	
SW13	9-905-299-01	SWITCH, KEY BOARD B (DSPL)	
SW14	1-570-711-11	SWITCH, SLIDE (OPERATIONAL DIRECTION SWITCH 1→2)	

****

MISCELLANEOUS

****

Ref. No.	Part No.	Description	Remark
8	1-696-623-61	CORD (WITH CONNECTOR)(POWER)	
9	1-590-519-11	CORD (WITH CONNECTOR)(UNILINK CONTROL)	
58	1-764-375-11	PLUG, CONNECTOR	
⚠259	8-583-007-11	DEVICE, MINIATURE DISK KMS-151A	
CNJ302	1-590-935-31	CORD (WITH CONNECTOR)(INDASH UNIT)	
F1	1-532-419-00	FUSE(3.15A)	
F2	1-532-360-XX	FUSE(1A)	
M501	X-3365-845-1	MOTOR ASSY, SL (SLED)	
M502	1-698-304-11	MOTOR, BSL (BSL)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEE ADDITIONAL INFORMATION

Ref.No.	Part No.	Description	Remark
M503	X-3367-748-1	U/D MOTOR ASSY (UP/DW)	
M504	X-3367-747-1	ROTARY MOTOR ASSY (MD TURN L/R)	
SW307	1-570-771-11	SWITCH (HOME)	
SW501	1-572-467-61	PUSH SWITCH (1KEY)(INNER LIMIT)	
SW502	1-570-771-21	SWITCH (UP/DW)	

****

ACCESSORIES & PACKING MATERIALS

****

Ref.No.	Part No.	Description	Remark
	1-696-623-61	CORD (WITH CONNECTOR)(POWER)	
	1-590-519-11	CORD (WITH CONNECTOR)(UNILINK CONTROL)	
	1-557-820-11	CORD, CONNECTION (ANT)	
	1-690-814-11	CORD (WITH TERMINAL)	
	1-751-354-11	CORD, CONNECTION (LINE OUT)	
	3-323-206-01	STOPPER (LARGE)	
	3-702-658-01	TOOL (REMOVE)	
*	3-704-132-01	LABEL (K), SELF (MDX-400/MDX-400RDS:AEP,UK)	
	3-757-980-11	MANUAL, INSTRUCTION (MDX-400RDS) (ENGLISH/FRENCH/GERMAN/ITALIAN)	
	3-757-980-21	MANUAL, INSTRUCTION (MDX-400:US,Canadian)(ENGLISH/FRENCH)	
	3-757-980-41	MANUAL, INSTRUCTION (MDX-400RDS:AEP,UK) (SPANISH/DUTCH/SWEDISH/PORTUGUESE)	
	3-757-980-51	MANUAL, INSTRUCTION (MDX-400:E) (ENGLISH/SPANISH/CHINESE)	
	3-757-981-11	MANUAL, INSTRUCTION, INSTALL (MDX-400RDS)(ENGLISH/FRENCH/GERMAN/ITALIAN)	
	3-757-981-21	MANUAL, INSTRUCTION, INSTALL (MDX-400:US,Canadian)(ENGLISH/FRENCH)	
	3-757-981-41	MANUAL, INSTRUCTION, INSTALL (MDX-400RDS:AEP,UK)(SPANISH/DUTCH/SWEDISH/PORTUGUESE)	
	3-757-981-51	MANUAL, INSTRUCTION, INSTALL(MDX-400:E) (ENGLISH/SPANISH/CHINESE)	
	3-758-170-11	MANUAL, INSTRUCTION, INSTALL (FOR ROTARY COMMANDER)(MDX-400RDS) (ENGLISH/FRENCH/GERMAN/ITALIAN/SPANISH/DUTCH/SWEDISH/PORTUGUESE)	
	3-758-170-51	MANUAL, INSTRUCTION, INSTALL (FOR ROTARY COMMANDER)(MDX-400:E) (ENGLIS/SPANISH/CHINESE)	
*	3-909-677-01	CUSHION (RIGHT)	
*	3-909-678-01	CUSHION (LEFT)	
	3-910-751-01	CUSHION (H)	
*	3-911-795-01	INDIVIDUAL CARTON (MDX-400:US,Canadian)	
*	3-911-796-01	INDIVIDUAL CARTON (MDX-400:E)	
*	3-911-797-01	INDIVIDUAL CARTON (MDX-400RDS:AEP,UK)	
*	3-911-799-01	INDIVIDUAL CARTON (MDX-400RDS:G)	
	3-912-971-01	CUSHION (H)	

Ref.No.	Part No.	Description	Remark
*	4-885-838-00	LABEL, CLASS 1 (MDX-400RDS:AEP,UK)	
	7-685-105-19	SCREW +P 2X8 TYPE2 NON-SLIT	
	X-3367-835-1	CASE ASSY (MD)	

****

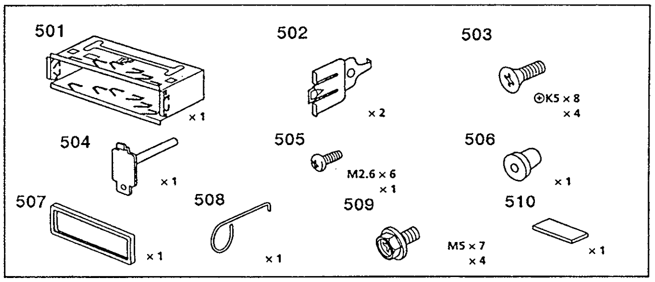
****

HARDWARE LIST

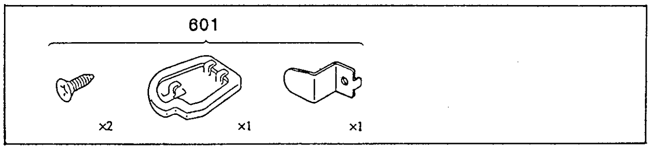
****

Ref.No.	Part No.	Description
#1	7-627-553-18	SCREW,PRECISION +P 2X2
#2	7-621-772-00	SCREW +B 2X3
#3	7-627-553-27	SCREW,PRECISION +P 2X2.5
#4	7-621-255-25	SCREW (+- 2X4), LOCK
#5	7-627-554-07	PRECISION SCREW +P 2X2.2 TYPE3
#6	7-685-105-19	SCREW +P 2X6 TYPE2
#7	7-627-853-57	PRECISION SCREW +P 2X5 TYPE3
#8	7-624-118-01	RING, RETAINING E-2.5
#9	7-627-852-98	SCREW,PRECISION +P1.7X4.5TYPE3
#10	7-627-551-58	SCREW,PRECISION +P 1.4X3
#11	7-627-850-27	SCREW,PRECISION +P 1.4X3
#12	7-627-852-48	PRECISION SCREW +P1.7X3.5TYPE3
#13	7-627-552-18	SCREW,PRECISION +P 1.7X1.6
#14	7-621-555-10	SCREW +K 2X3
#15	7-627-553-37	PRECISION SCREW +P 2X3 TYPE 3
#16	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT
#17	7-621-772-08	SCREW +B 2X3

MOUNTING HARDWARE



Ref.No.	Part No.	Description
* 501	X-3366-235-1	FRAME ASSY, FITTING
502	3-909-685-01	SPRING (FITTING)
503	3-367-968-01	SCREW (M5X8)
504	X-3367-788-1	SHAFT (FITTING) ASSY
505	7-621-770-67	SCREW +P 2.6X6
506	3-349-410-01	BUSHING
507	3-909-686-11	COLLAR
508	3-909-728-01	HOLDER (JACK)
509	3-910-039-01	BOLT (M5X7)
* 510	3-355-207-01	CARDBOARD (E)



Ref.No.	Part No.	Description
601	X-3366-925-1	BRACKET ASSY

9-959-245-11

Sony Corporation
Mobile Electronics Group

English
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Published by Audio Sector Quality Assurance Dept.

MDX-400/400RDS

SONY®

SERVICE MANUAL

US Model
Canadian Model
E Model
MDX-400

AEP Model
UK Model
MDX-400RDS

SUPPLEMENT-1

File this Supplement with the Service Manual.

Subject :

1. DISASSEMBLY
2. HOW TO BEND IN A ROTARY FLEXIBLE BOARD
3. TEST MODE
4. ELECTRICAL ADJUSTMENTS
5. EXPLANATION OF IC TERMINALS
6. BLOCK DIAGRAMS
7. IC BLOCK DIAGRAMS
- ● CORRECTION

TABLE OF CONTENTS

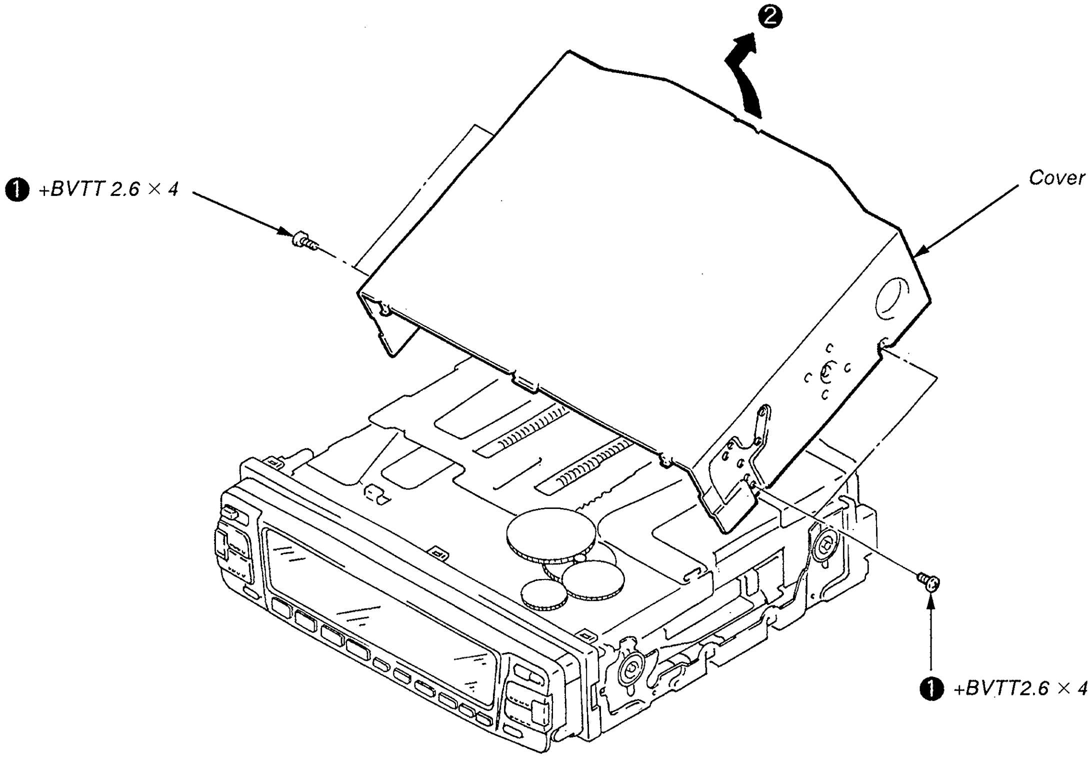
Title *Page*

1. DISASSEMBLY ······ 2
2. HOW TO BEND IN A ROTARY FLEXIBLE BOARD ······ 9
3. TEST MODE ······ 10
4. ELECTRICAL ADJUSTMENTS ······ 13
5. EXPLANATION OF IC TERMINALS ······ 17
6. BLOCK DIAGRAMS ······ 28
7. IC BLOCK DIAGRAMS ······ 35
● CORRECTION ······ 43

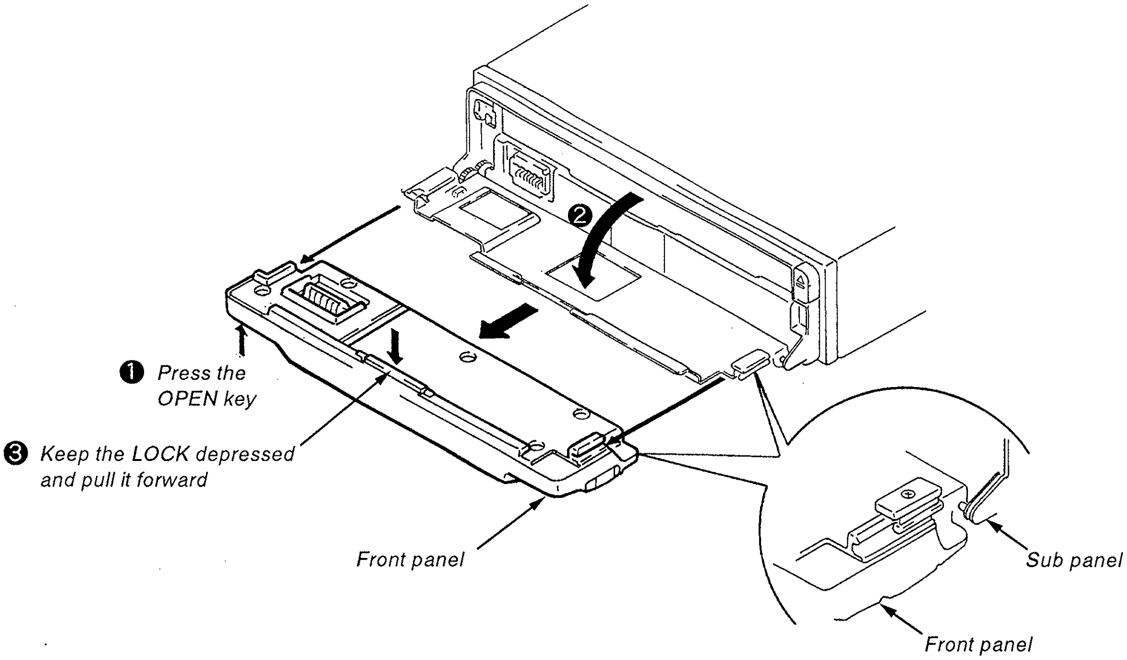
SECTION 1
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

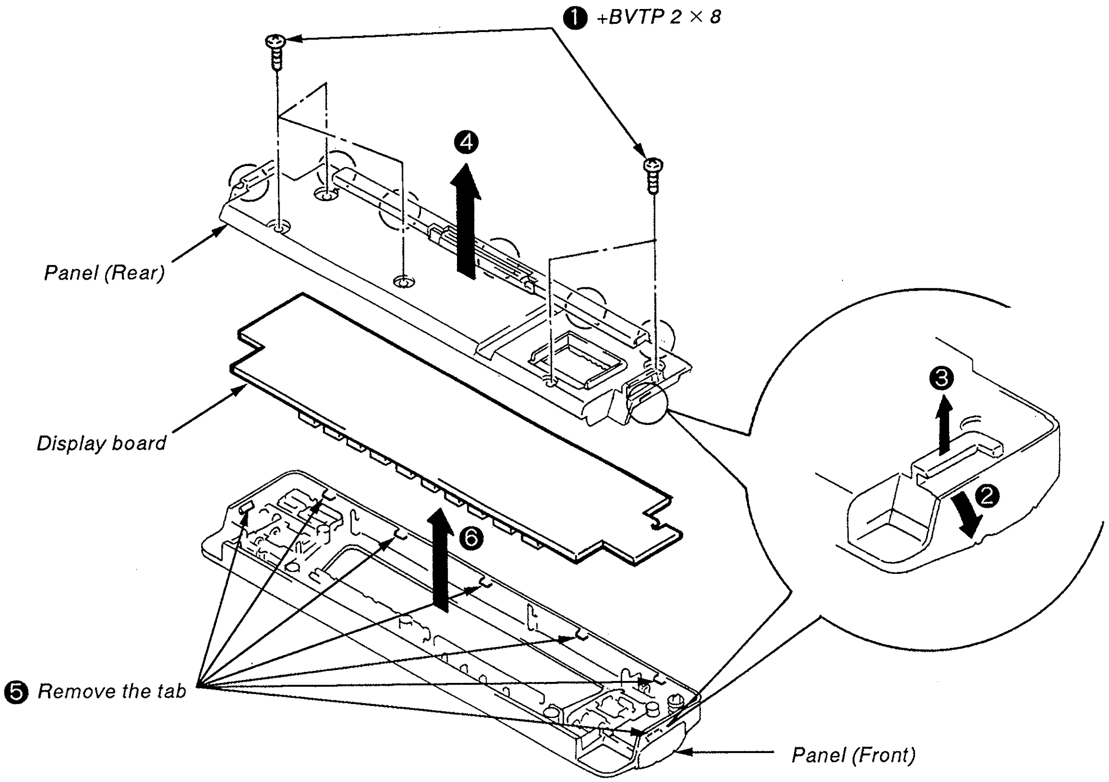
1-1. COVER ASSY


❷
❶ +BVTT 2.6 × 4
Cover
❶ +BVTT2.6 × 4

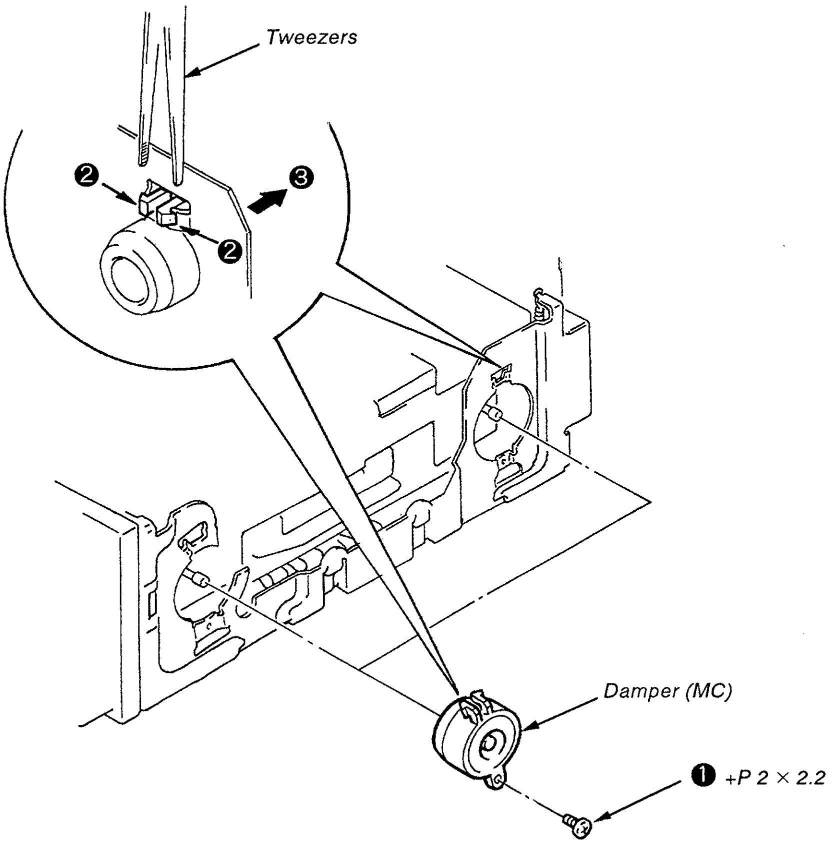
1-2. FRONT PANEL ASSY


❷
❶ Press the OPEN key
❸ Keep the LOCK depressed and pull it forward
Front panel
Sub panel
Front panel

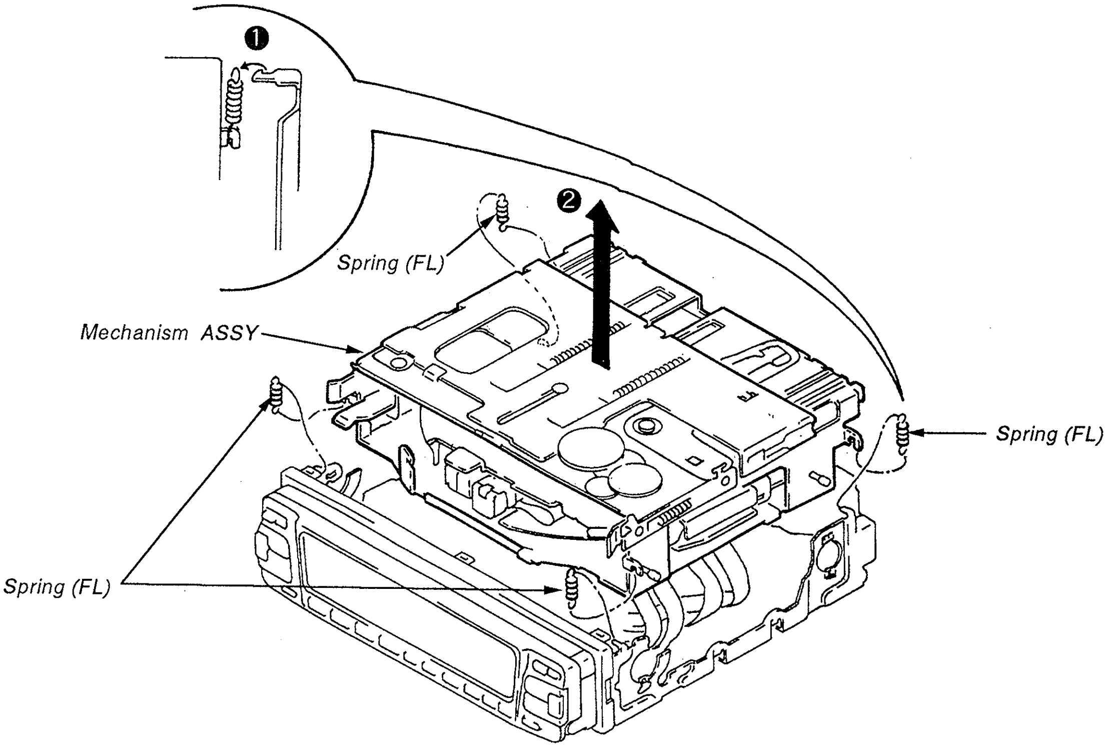
1-3. DISPLAY BOARD


❶ +BVTP 2 × 8
❹
Panel (Rear)
❸
❷
Display board
❻
❺ Remove the tab
Panel (Front)

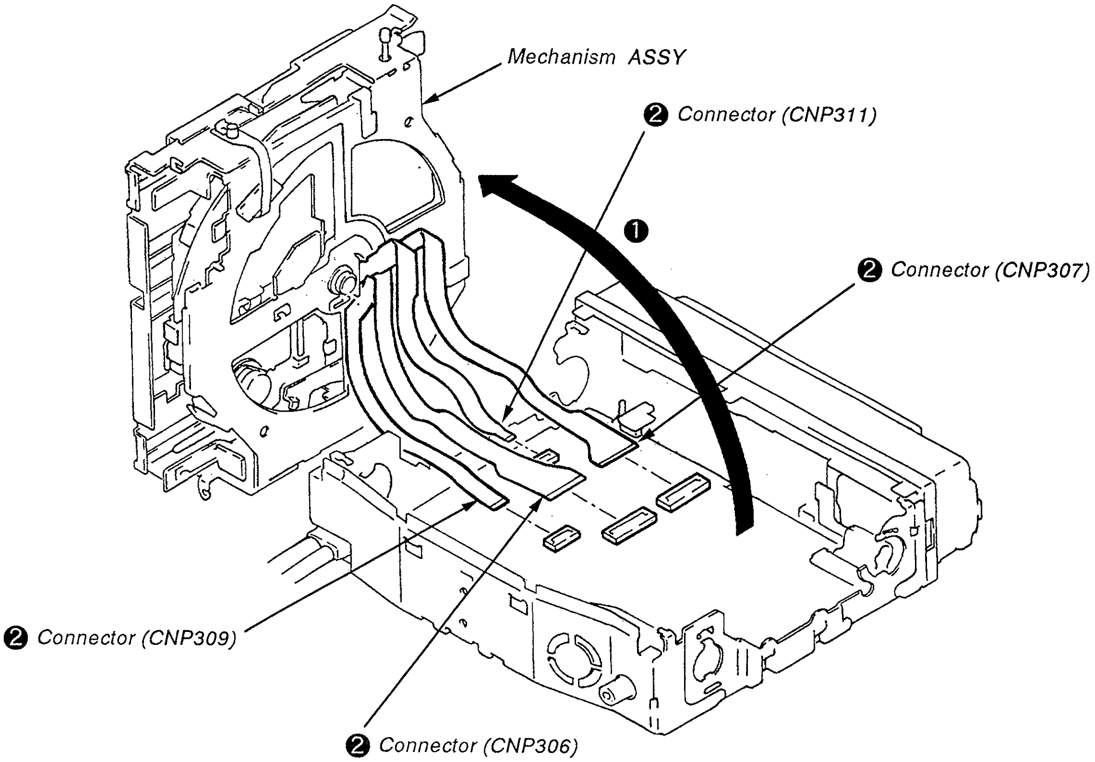
1-4. DAMPER (MC)


Tweezers
❷
❸
❷
Damper (MC)
❶ +P 2 × 2.2

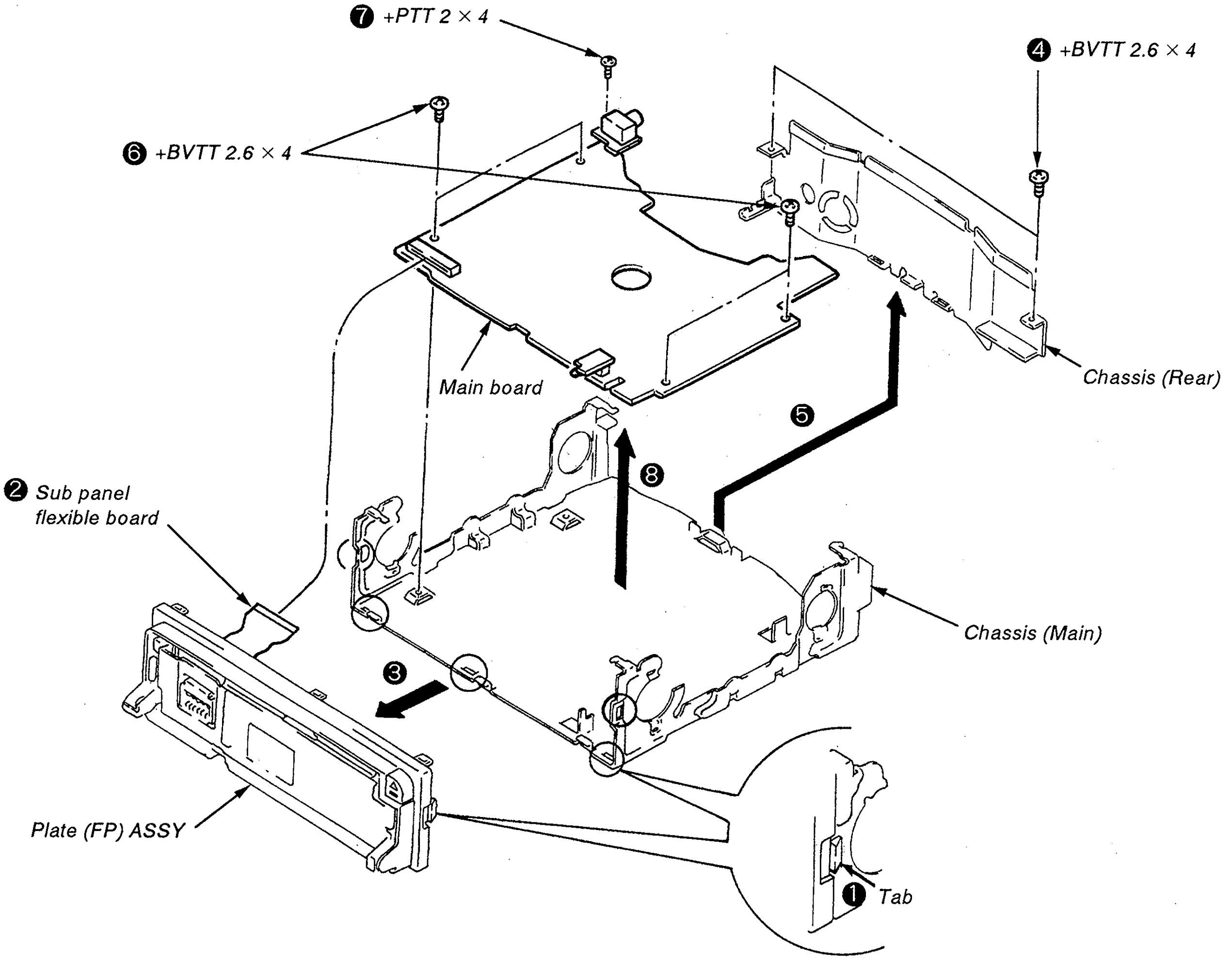
1-5. MECHANISM ASSY-1


❶
❷
Spring (FL)
Mechanism ASSY
Spring (FL)
Spring (FL)

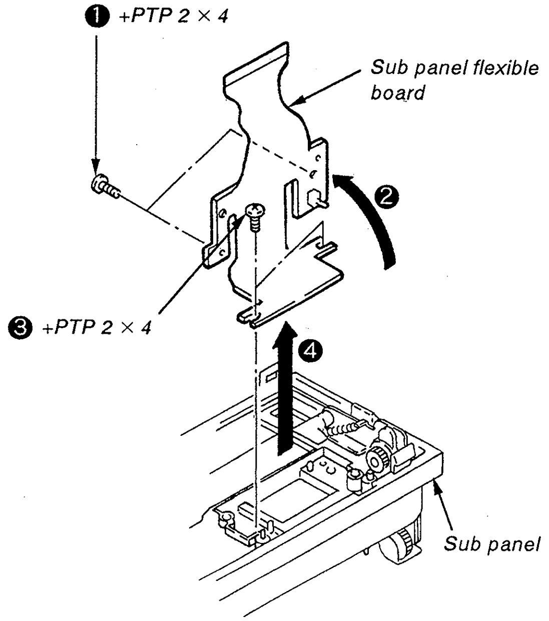
1-6. MECHANISM ASSY-2


Mechanism ASSY
❷ Connector (CNP311)
❶
❷ Connector (CNP307)
❷ Connector (CNP309)
❷ Connector (CNP306)

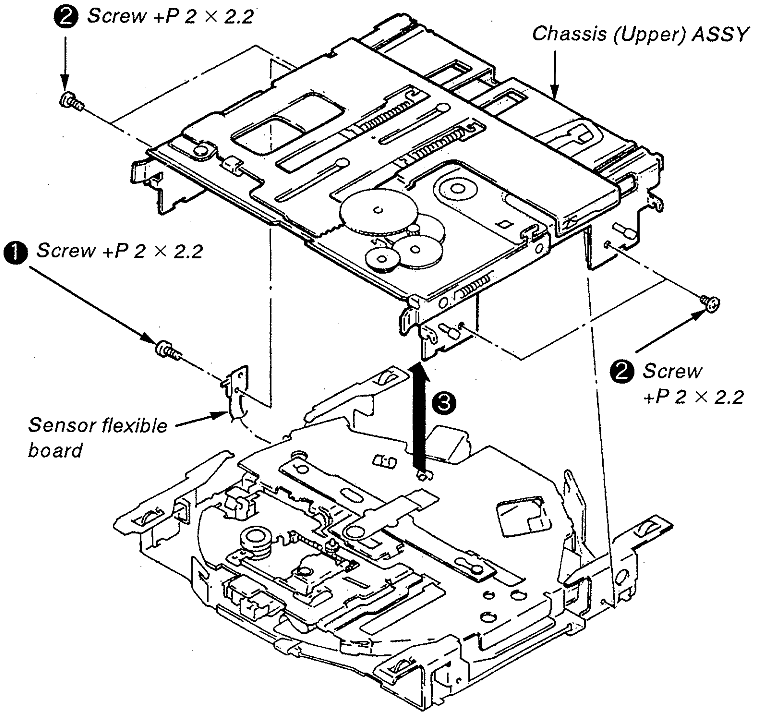
1-7. MAIN BOARD


⑦ +PTT 2 × 4
④ +BVTT 2.6 × 4
⑥ +BVTT 2.6 × 4
Main board
Chassis (Rear)
⑤
⑧
② Sub panel flexible board
Chassis (Main)
③
Plate (FP) ASSY
① Tab

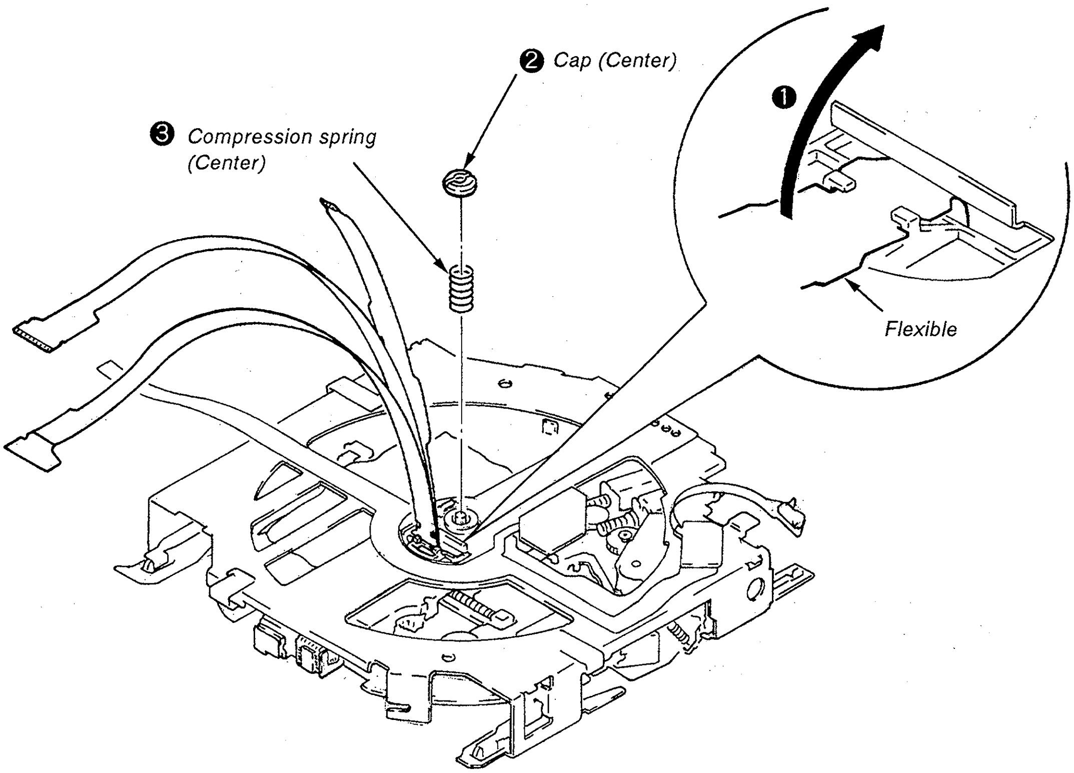
1-8. SUB PANEL FLEXIBLE BOARD


① +PTP 2 × 4
Sub panel flexible board
②
③ +PTP 2 × 4
④
Sub panel

1-9. SENSOR FLEXIBLE BOARD, CHASSIS (UPPER) ASSY

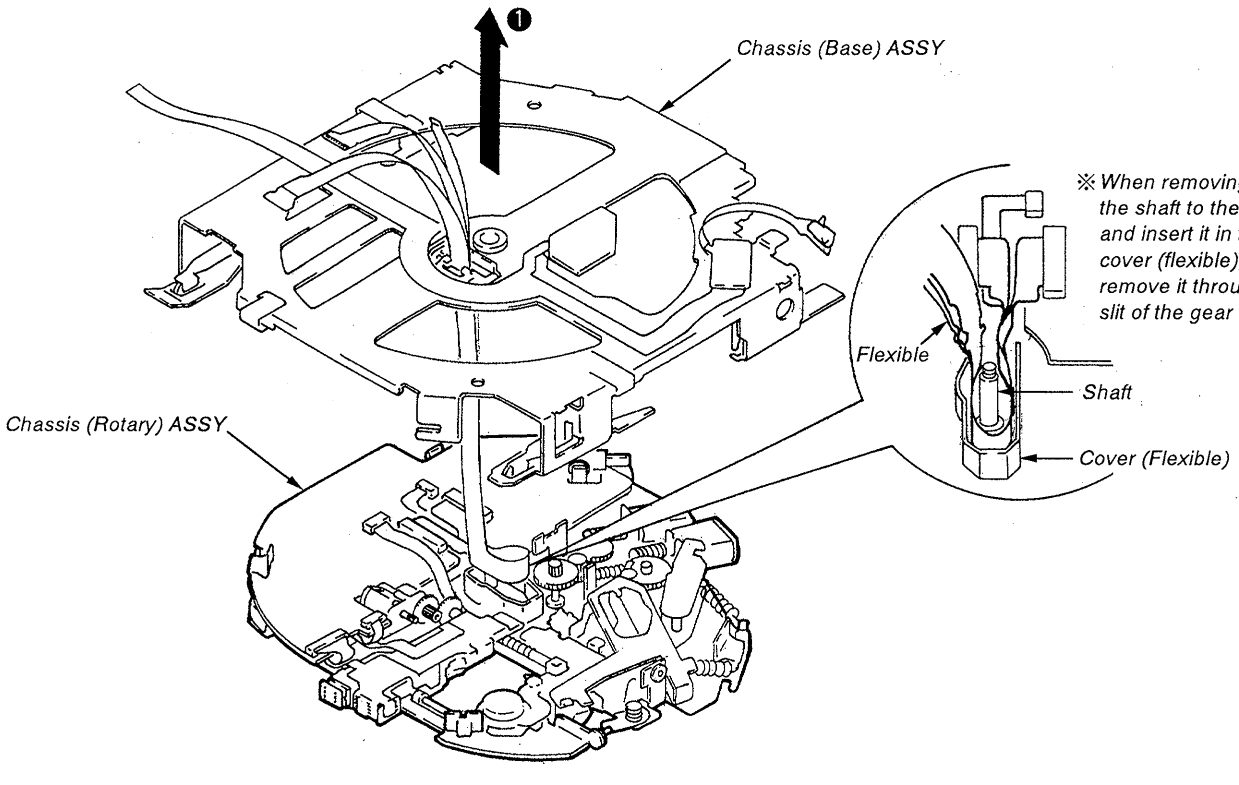

② Screw +P 2 × 2.2
Chassis (Upper) ASSY
① Screw +P 2 × 2.2
② Screw +P 2 × 2.2
③
Sensor flexible board

1-10. CHASSIS (ROTARY) ASSY-1



❷ Cap (Center)
❸ Compression spring (Center)
❶
Flexible

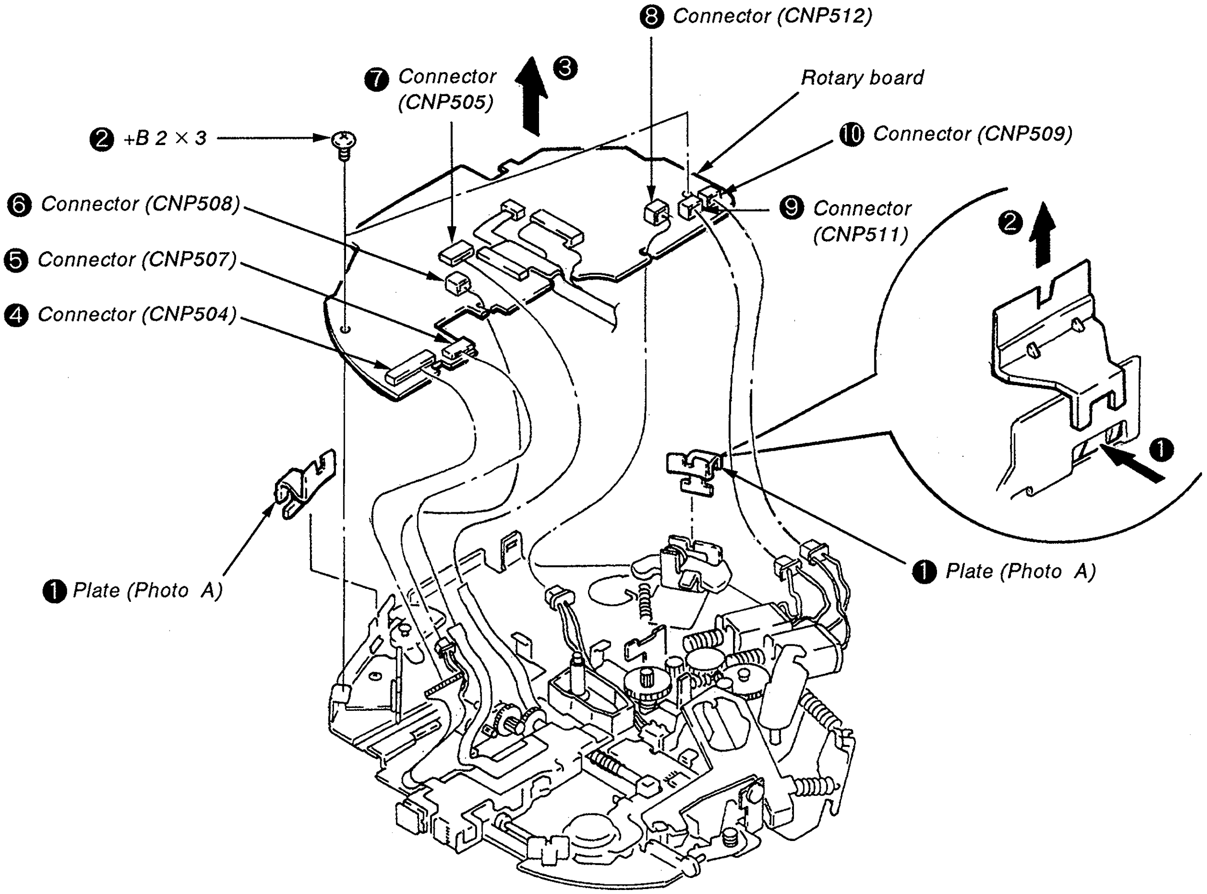
1-11. CHASSIS (ROTARY) ASSY-2



❶
Chassis (Base) ASSY
Chassis (Rotary) ASSY
Flexible
Shaft
Cover (Flexible)

※ When removing, turn the shaft to the center and insert it in the cover (flexible), and remove it through the slit of the gear (fixed).

1-12. ROTARY BOARD


❽ Connector (CNP512)
❼ Connector (CNP505)
❸
Rotary board
❷ +B 2 × 3
❿ Connector (CNP509)
❻ Connector (CNP508)
❾ Connector (CNP511)
❺ Connector (CNP507)
❷
❹ Connector (CNP504)
❶
❶ Plate (Photo A)
❶ Plate (Photo A)

1-13. CHASSIS (OP) ASSY

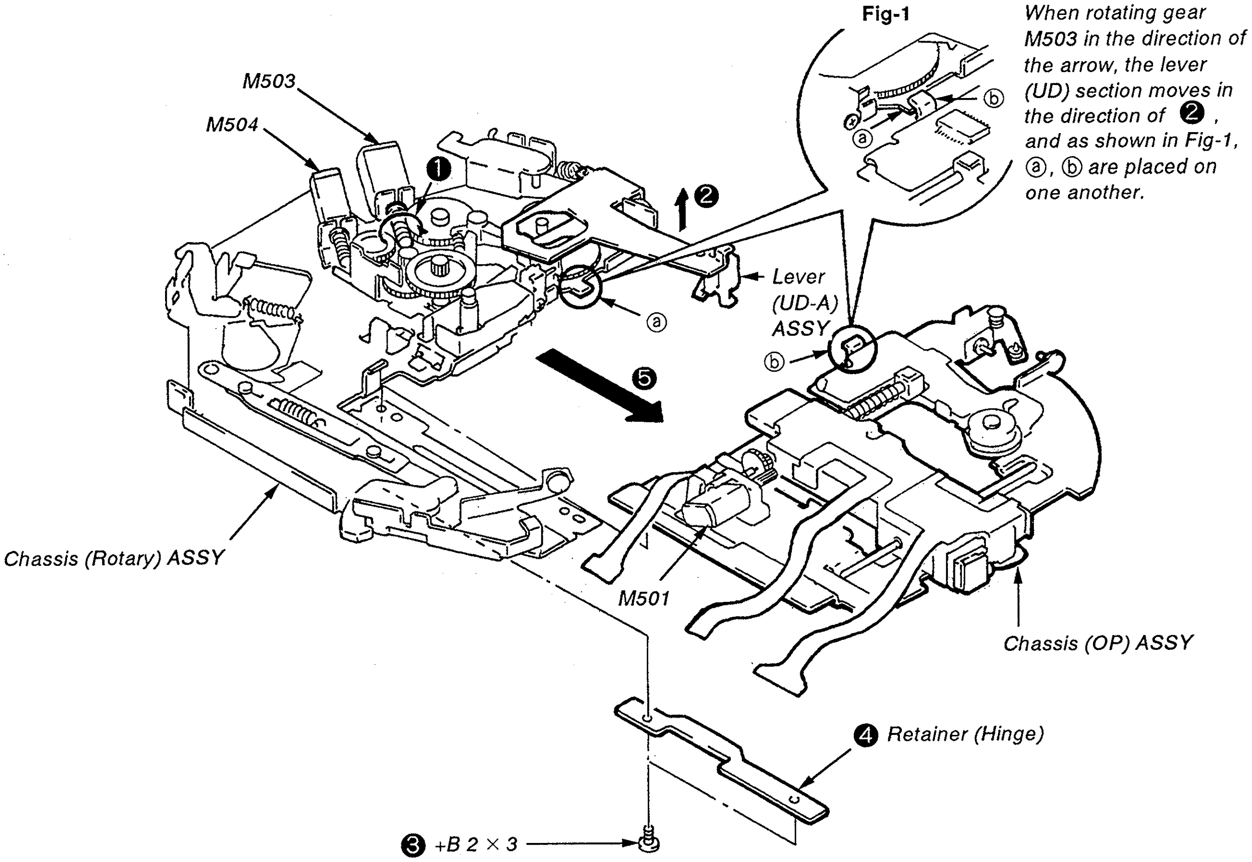
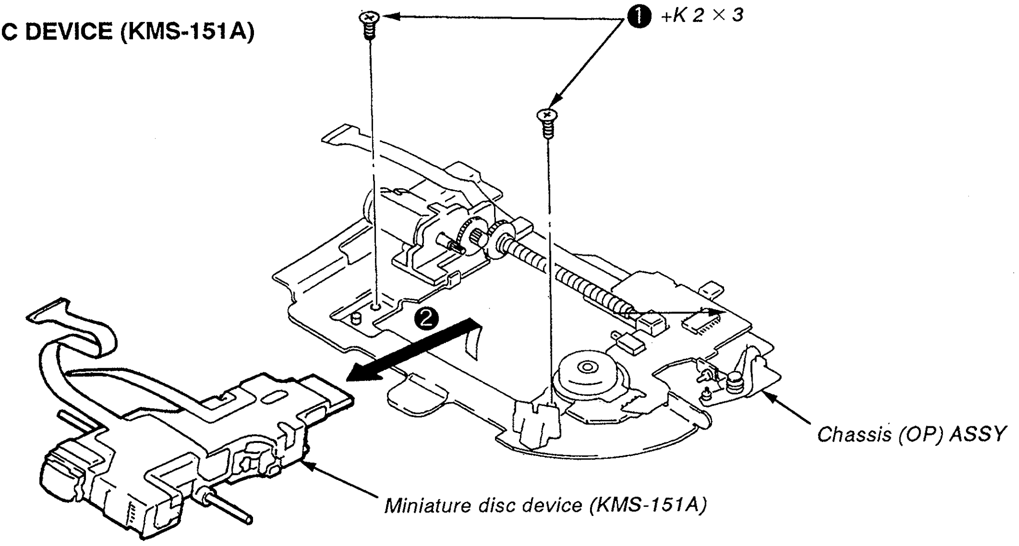


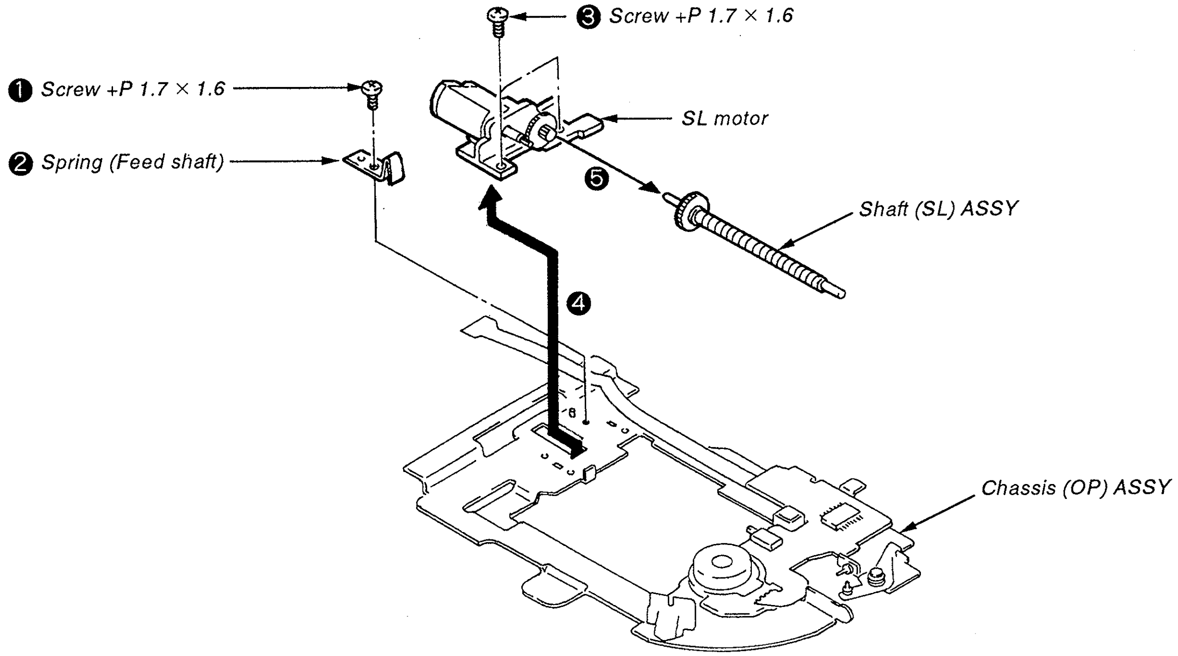
Fig-1
M503
M504
ⓑ
ⓐ
❶
❷
Lever (UD-A) ASSY
ⓐ
ⓑ
❺
Chassis (Rotary) ASSY
M501
Chassis (OP) ASSY
❹ Retainer (Hinge)
❸ +B 2 × 3

When rotating gear M503 in the direction of the arrow, the lever (UD) section moves in the direction of ❷ , and as shown in Fig-1, ⓐ, ⓑ are placed on one another.

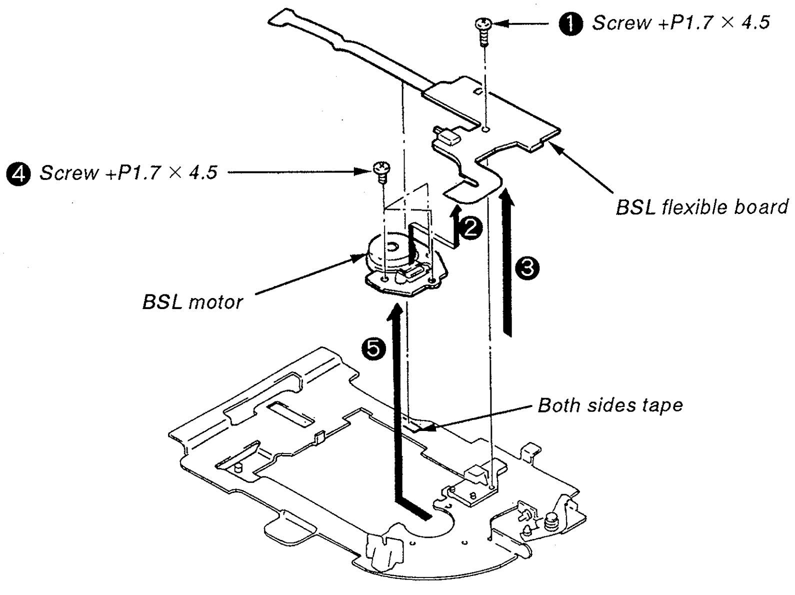
1-14. MINIATURE DISC DEVICE (KMS-151A)


❶ +K 2 × 3
❷
Chassis (OP) ASSY
Miniature disc device (KMS-151A)

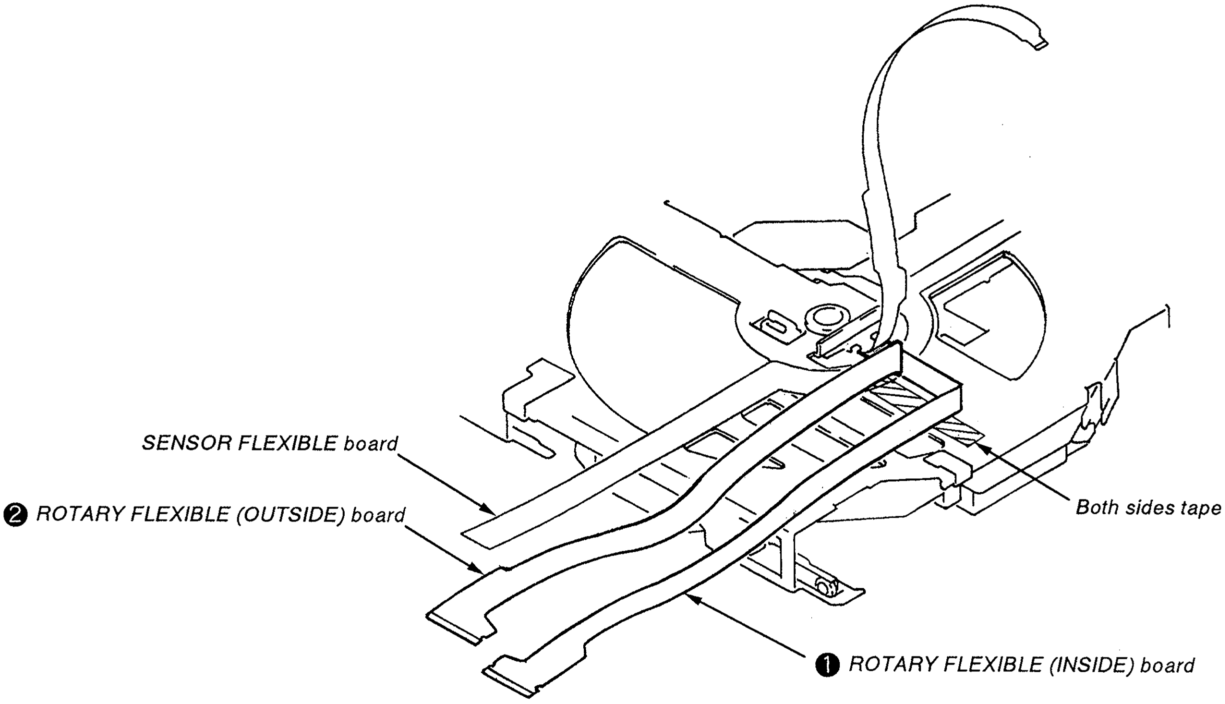
1-15. SL MOTOR/SHAFT (SL) ASSY

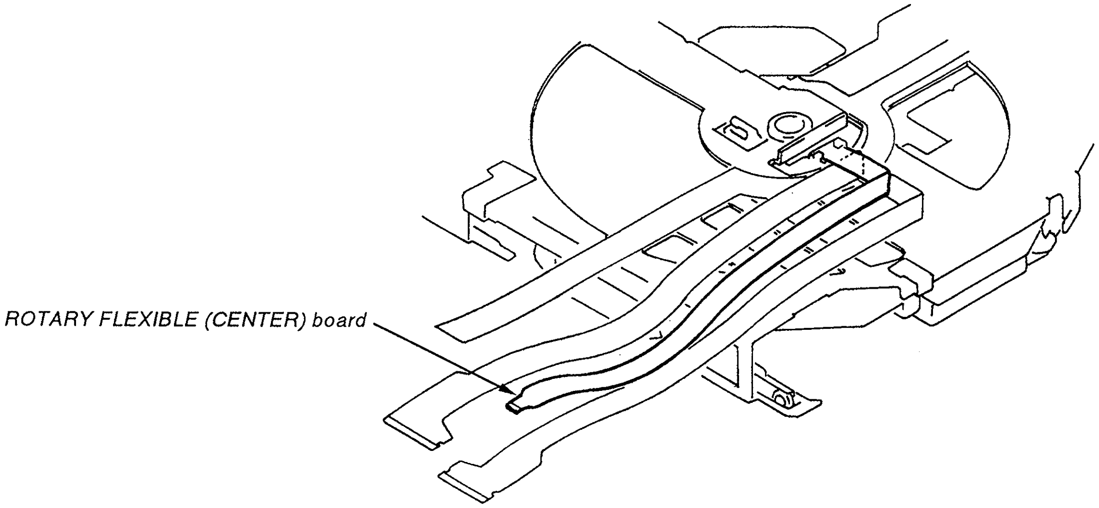

❸ Screw +P 1.7 × 1.6
❶ Screw +P 1.7 × 1.6
SL motor
❷ Spring (Feed shaft)
❺
Shaft (SL) ASSY
❹
Chassis (OP) ASSY

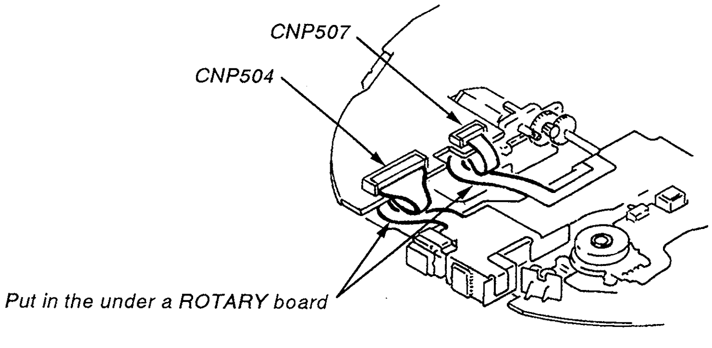
1-16. BSL MOTOR


❶ Screw +P1.7 × 4.5
❹ Screw +P1.7 × 4.5
BSL flexible board
❷
❸
BSL motor
❺
Both sides tape

SECTION 2
HOW TO BEND IN A ROTARY FLEXIBLE BOARD


SENSOR FLEXIBLE board
❷ ROTARY FLEXIBLE (OUTSIDE) board
Both sides tape
❶ ROTARY FLEXIBLE (INSIDE) board

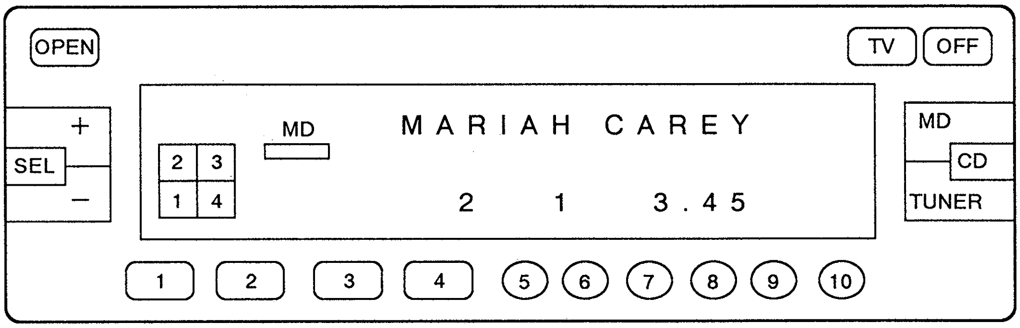

ROTARY FLEXIBLE (CENTER) board


CNP507
CNP504
Put in the under a ROTARY board

SECTION 3
TEST MODE

OUTLINE OF TEST MODE

Mechanism and servo test mode are described here. Test mode can operate independently with only the mechanism deck, and it changes by the key input from nose panel. During test mode, ⑤ Pin (Lock) terminal of IC306 (CXD2525R) becomes interlocked with the display.
The test mode is divided into MD test mode (indash test mode) and set test mode (test mode of the entire system).

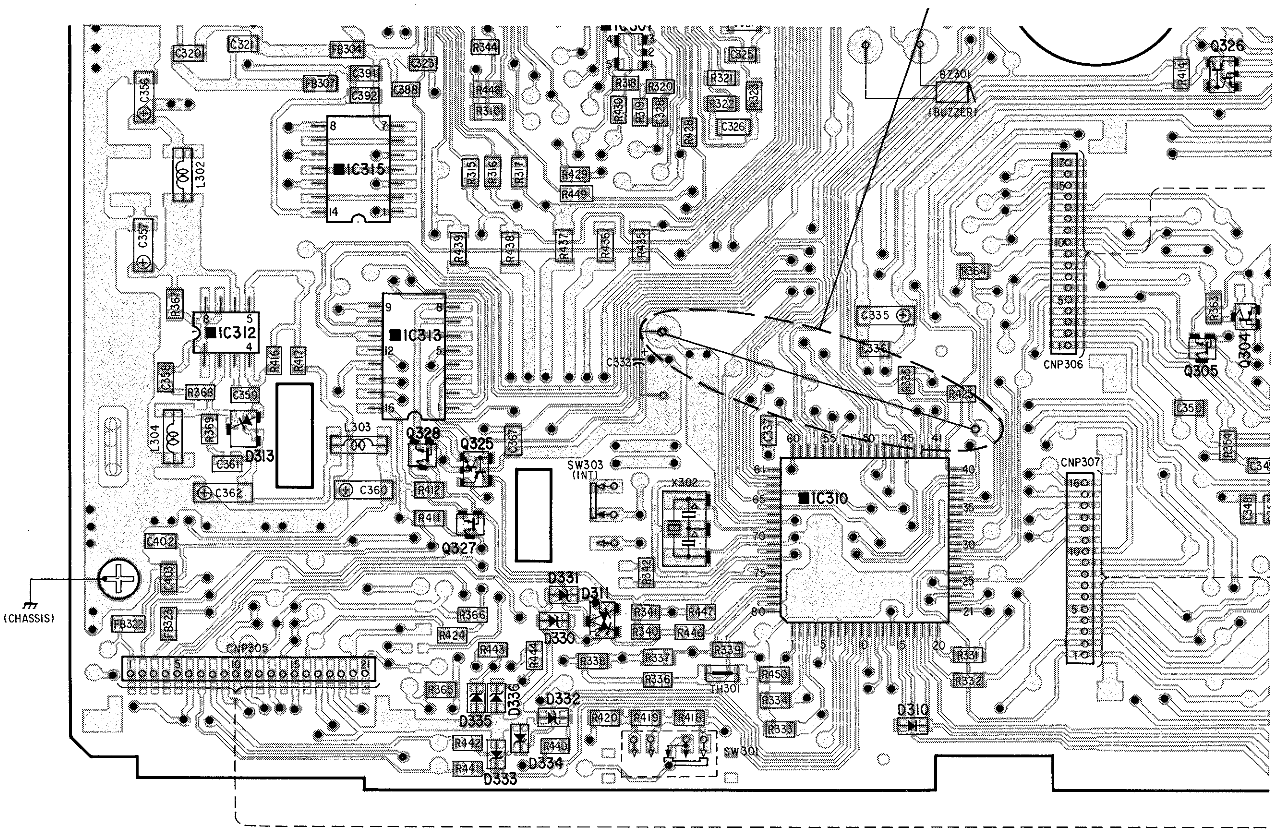

OPEN
TV
OFF
+
SEL
−
2 3
1 4
MD
MARIAH CAREY
2 1 3.45
MD
CD
TUNER
1
2
3
4
5
6
7
8
9
10

Set (entire system) test mode setting

1. Press preset button 4.
2. Press preset button 5.
3. Press preset button 1 for about 2 seconds.
4. All ON appears on the display, and test mode becomes set.
   (To cancel the test mode, press OFF button or RESET button of HIDEWAY.)

Setting of MD (indash) test mode

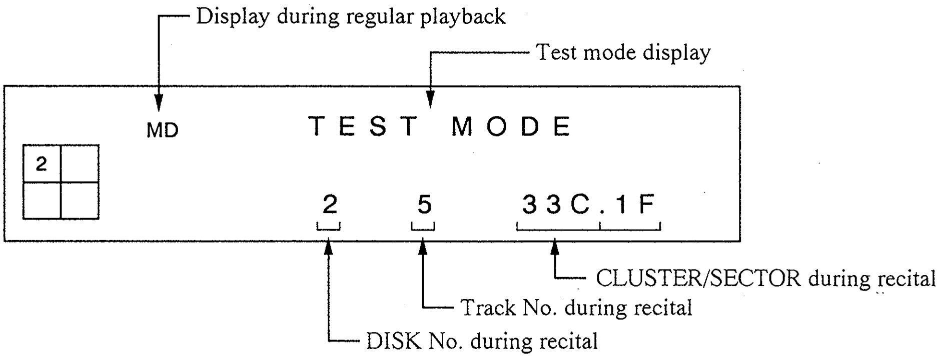
1. Connect ㉟ Pin of IC310 to +5V as shown in the following diagram (㉟ Pin=H).
2. Press the reset button of HIDEWAY.
3. Test mode appears on the display, and test mode becomes set.
   (To cancel the test mode, disconnect ㉟ Pin of IC310.)


Connect ㉟ Pin of IC310 to +5V.
IC310
IC313
IC315
IC312
BZ301
(BUZZER)
SW303
(INT)
X302
SW301
CNP305
CNP306
CNP307
(CHASSIS)

1. Playback Test Mode (Set (entire system) at the time of test mode and MD (indash) test mode)

No.	Key input	Operation
1	Press MD button	Regular playback test mode becomes set.
2	Press 1 button	AMS down occurs.
	Press 2 button	AMS UP occurs.
	Press 3 button	PLAY mode (SHUFFLE OFF/INTRO SHUFFLE 2)
	Press 4 button	MD stops.

Display appears as follows during playback.


Display during regular playback
Test mode display
MD
TEST MODE
2
2
5
33C.1F
CLUSTER/SECTOR during recital
Track No. during recital
DISK No. during recital

2. Mechanism/Servo Test Mode (MD (indash) at the time of test mode)

No.	Key input	Operation
1		Mechanism/servo test mode
2	Press 1 button	High speed FOCUS serch/CLV ON.
	Press 2 button	TRACKING SLED ON (CLVP)/OFF (CLVS) (Can be pressed only when FOCUS ON)
	Press 3 button	Point feed during SLED (300ms peripheral feed, after innermost peripheral feed)
	Press 4 button	Servo STOP
	Press 5 button	Pre-MD LD ON/OFF (Switches over every time pressed)
	Press 6 button	Rec-MD LD ON/OFF (Switches over every time pressed)
	Press 7 button	SLED FW (While pressed)
	Press 8 button	SLED RVS (While pressed)
	Press 9 button	DISC chucking/release (State reversed every time pressed)
	Press 10 button	DISC UP (1 – 2 – 3 – 4 – 1 address set, every time when pressed)
3	Press OFF button	Causes test mode off/reset.

SET (ENTIRE SYSTEM) TEST MODE

PRE AMP TEST MODE

Test mode of PRE AMP is valid when there is either SOURCE ON, during test mode.

> [* * (K)] in the following notation indicates main unit button, and [* * (R)] indicates rotary command.

(1) Switching over the VOLUME LEVEL with SOURCE button

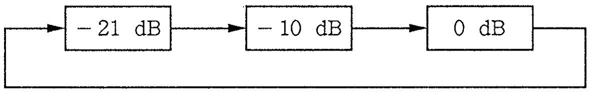
- The VOL LEVEL given in the following table can be set by switching over each SOURCE, after turning ON the [SOURCE (R)] button or [MD (K)] [TUNER (K)] [CD (K)] [TV (K)].

SOURCE	VOLUME
TAPE	0 dB
TUNER	− 21 dB
CD	− 10 dB
MD	− 10 dB
TV	− 10 dB

※ BAS, TRE, BAL, & FAD are all center at the time of switching over SOURCE.

(2) Switching over the VOLUME LEVEL with LEVEL +/ − button

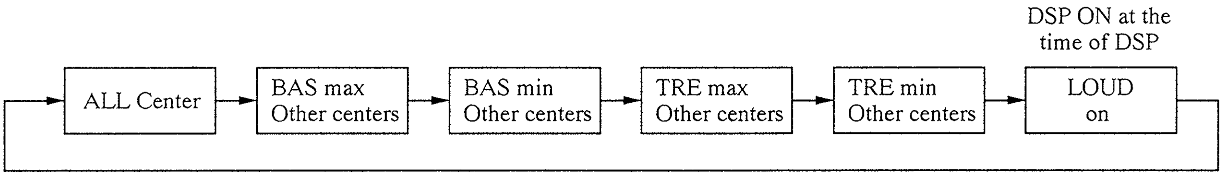
- The LEVEL changes as given below by every time pressing the [LEVEL + (K) (R)] button (regular VOL+, at the time of DSP connection).


− 21 dB
− 10 dB
0 dB

- LEVEL − (K) (R)] button executes regular operation.

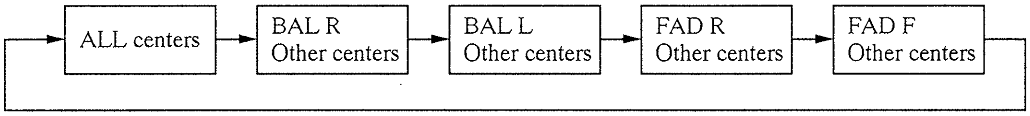
(3) Switching over the BASS/TREBLE LOUD with [SELECT (K) (R)] button

- The following switch over takes plase, by every time preesing the [SELECT (K) (R)]


DSP ON at the time of DSP
ALL Center
BAS max Other centers
BAS min Other centers
TRE max Other centers
TRE min Other centers
LOUD on

(4) Switching over the BALANCE/FADER with [MUTE] button

- The following switch over takes place, by every time pressing the [MUTE (K) (R)] button.


ALL centers
BAL R Other centers
BAL L Other centers
FAD R Other centers
FAD F Other centers

SECTION 4
ELECTRICAL ADJUSTMENTS

Setting of Test Mode

1. Press OFF button (OFF state becomes set).
2. Press preset 4 button.
3. Press preset 5 button.
4. Press preset 1 button.
5. Entire display turns ON, and test mode is instated.

RADIO SECTION

- **CAUTIONS ON REPAIRS**
  If the front end becomes defective, replace it entirely because its internal repairs are rather difficult.

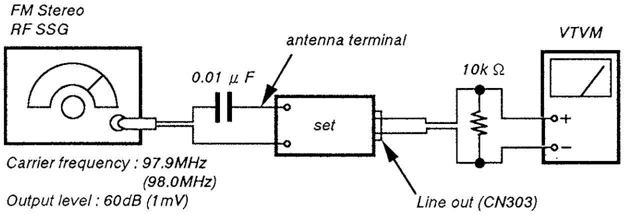
Setting :

DIVERSITY switch : OFF
POWER SEL switch : ON
Connect the rotary commander jack to CN702.

FM Noise Focus Adjustment

Setting :

no mark : MDX-400
( ) : MDX-400RDS



Carrier frequency : 97.9MHz (98.0MHz)
Output level : 60dB (1mV)

Procedure :

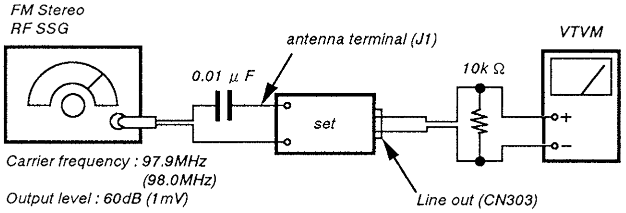
1. Set FM mode by pressing the SOURCE button of rotary commander.
2. Set 97.9MHz (98.0MHz) by pressing the preset 3 button.
3. Adjust the output to 0dB (1mV) by turning the VOL of rotary commander.
4. Adjust the TU1 built in semi-fixed resistor, so that the output becomes − 30 ± 2dB, when the output level of RF SSG is set at − 20dB.

Adjusting Location : HIDEWAY board TU1

High Cut Control Adjustment

Setting :

no mark : MDX-400
( ) : MDX-400RDS



Carrier frequency : 97.9MHz (98.0MHz)
Output level : 60dB (1mV)

Procedure :

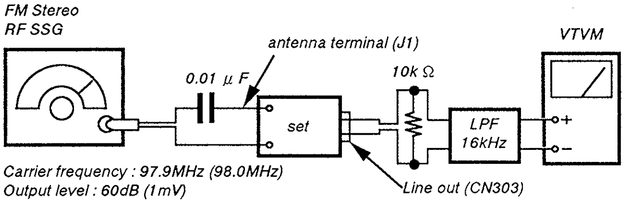
1. Set FM mode by pressing the SOURCE button of rotary commander.
2. Set 97.9MHz (98.0MHz) by pressing the preset 3 button.
3. Adjust the output to 0dB (1mV) by turning the VOL of rotary commander.
4. Adjust the TU1 built in semi-fixed resistor, so that the output becomes − 5 ± 1dB, when the output level of RF SSG is set at − 20dB.

Adjusting Location : HIDEWAY board TU1

FM Separation Adjustment

Setting :

no mark : MDX-400
( ) : MDX-400RDS



Carrier frequency : 97.9MHz (98.0MHz)
Output level : 60dB (1mV)
Main : 1kHz, 33.75kHz deviation
Sub : 1kHz, 33.75kHz deviation
19kHz Pilot : 7.6kHz deviation

Procedure :

1. Set FM mode by pressing the SOURCE button of rotary commander.
2. Set 97.9MHz (98.0MHz) by pressing the preset 3 button.
3. Adjust the output to 0dB (1mV) by turning the VOL of rotary commander.
4. Adjust the separation of line out to its best level, by turning the TU1 built-in semi-fixed resistor.

FM Stereo SSG output channel	Connection of VTVM	Reading VTVM (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust the reading of VTVM to its minimum level, by turning the TU1 built-in semi-fixed resistor.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust the reading of VTVM to its minimum level, by turning the TU1 built-in semi-fixed resistor.

L-CH Stereo separation : Ⓐ − Ⓑ
R-CH Stereo separation : Ⓒ − Ⓓ

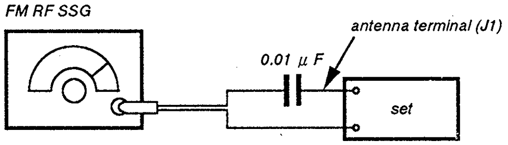
The separation values of both channels should be approximately identical.
Reference value : 27dB or more

Adjusting Location : HIDEWAY board TU1

FM Auto Scan/Stop Level Adjustment

Setting :

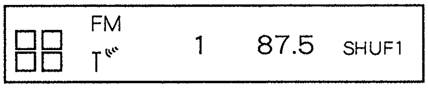
no mark : MDX-400
( ) : MDX-400RDS


FM RF SSG
antenna terminal (J1)
0.01 μF
set

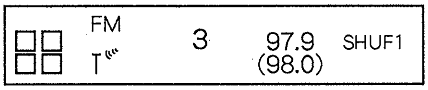
Carrier frequency : 97.9MHz (98.0MHz)
Output level : 22dB (13.0 μV)
Mode : Mono, no modulation

Procedure :

1. Set test mode (See page 10).
2. Set FM mode by pressing the SOURCE button of rotary commander.


FM
1
87.5
SHUF1

3. Press preset 3 button.


FM
3
97.9
(98.0)
SHUF1

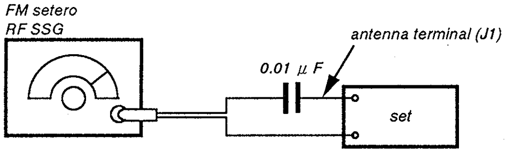
4. Adjust the TU1 built-in semi-fixed resistor, so that the display shows "0".

Adjusting Location : HIDEWAY board TU1

S-Meter Adjustment

Setting :

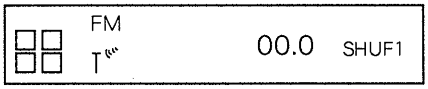
no mark : MDX-400
( ) : MDX-400RDS


FM setero
RF SSG
antenna terminal (J1)
0.01 μF
set

Carrier frequency : 97.9MHz (98.0MHz)
Output level : 33dB (44.7 μV)

Procedure :

1. Set test mode (See page 10).
2. Set FM mode by pressing the SOURCE button of rotary commander.
3. Press preset 10 button.


FM
00.0
SHUF1

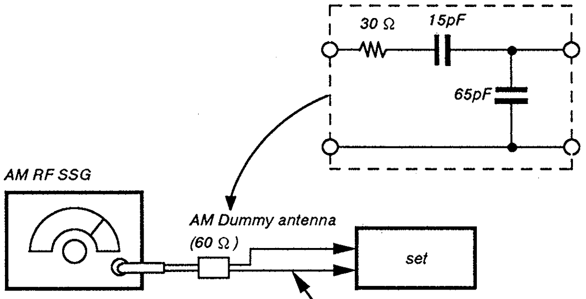
4. Adjust RV601, so that the display value becomes "13.2 ± 0.2".

Adjusting Location : HIDEWAY board TU1

AM Auto Scan/Stop Level Adjustment

Caution : Make this adjustment, after adjusting the FM auto scan stop level adjustment.

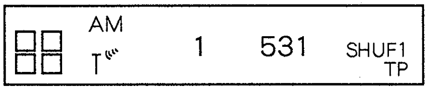
Setting :


30 Ω
15pF
65pF
AM RF SSG
AM Dummy antenna
(60 Ω)
set

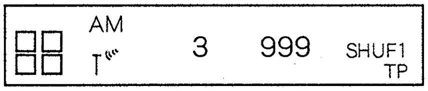
Carrier frequency : 999kHz
Output level : 33dB (44.1 μV)
antenna terminal (J1)

Procedure :

1. Set test mode (See page 10).
2. Set FM mode by pressing the SOURCE button of rotary commander.


AM
1
531
SHUF1
TP

3. Press preset 3 button.

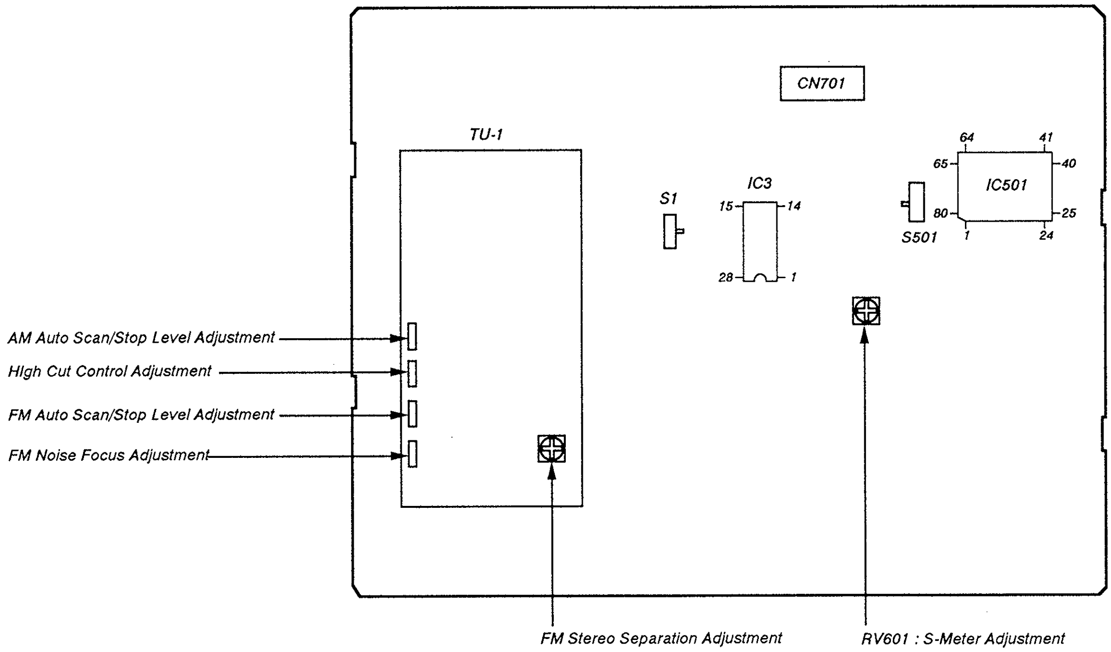

AM
3
999
SHUF1
TP

4. Adjust the TU1 built-in semi-fixed resistor, so that the display shows "0".

Adjusting Location : HIDEWAY board TU1

Adjustment Location :

【HIDEAWAY BOARD】 (Component side)



CN701
TU-1
S1
IC3
15
14
28
1
64
41
65
40
IC501
80
25
S501
1
24
AM Auto Scan/Stop Level Adjustment
High Cut Control Adjustment
FM Auto Scan/Stop Level Adjustment
FM Noise Focus Adjustment
FM Stereo Separation Adjustment
RV601 : S-Meter Adjustment

MD SECTION MD (indash) Test Mode

Prior to Adjustment

1. Set test mode (See page 10).
2. The functions of each button at this time are as per mechanism/servo test mode (See page 11).
3. Make all the adjustments in test mode, as in the given order.

FOK OFFSET Adjustment

1. Connect VOM between IC504 ① (VR) and ㉝ (ABCD).
2. Press $\boxed{6}$ (LASER ON), and adjust RV501 so that the VOM reading becomes − 200 ± 10mV.
3. Press $\boxed{4}$ (STOP).

Laser Power adjustment

- Method using the laser power meter

1. Turn ON the laser by pressing $\boxed{6}$.
2. Adjust the position of SLED by pressing $\boxed{3}$.
   Adjust RV506 so that a laser output of 810 ± 5 μW is obtained with 780nm setting.

- Method using EYE PATTERN

Set a playback DISC (Pre-master DISC), turn ON PLAY, and adjust RV506 so that 1.4Vp-p is obtained.

MO Focus Bias Adjustment

1. Connect VOM between IC504 ① (VR) and ㉒ (FE).
2. Press $\boxed{6}$ (LASER ON), and adjust RV504 so that the VOM reading becomes − 300 ± 10mV.
3. Press $\boxed{4}$ (STOP).

PIT Focus Bias Adjustment

1. Connect VOM between IC504 ① (VR) and ㉒ (FE).
2. Turn ON the laser by pressing $\boxed{5}$ (LASER ON).
3. Adjust RV505 so that the VOM reading becomes − 100 ± 10mV.
4. Press $\boxed{4}$ (STOP).

PIT E-F Balance Adjustment

1. Connect VOM between IC504 ① (VR) and ㉔ (TE).
2. Set DISC (PIT).
3. Press $\boxed{1}$ (FOCUS ON), and adjust RV502 so that the VOM reading becomes − 0 ± 10mV (Check both playback DISC and MO DISC).

MO E-F Balance Adjustment

1. Connect VOM between IC504 ① (VR) and ㉔ (TE).
2. Set DISC (MO).
3. Press $\boxed{1}$ (FOCUS ON), and adjust RV503 so that the VOM reading becomes − 0 ± 10mV (Check both playback DISC and MO DISC).

Focus/Tracking Gain Adjustment

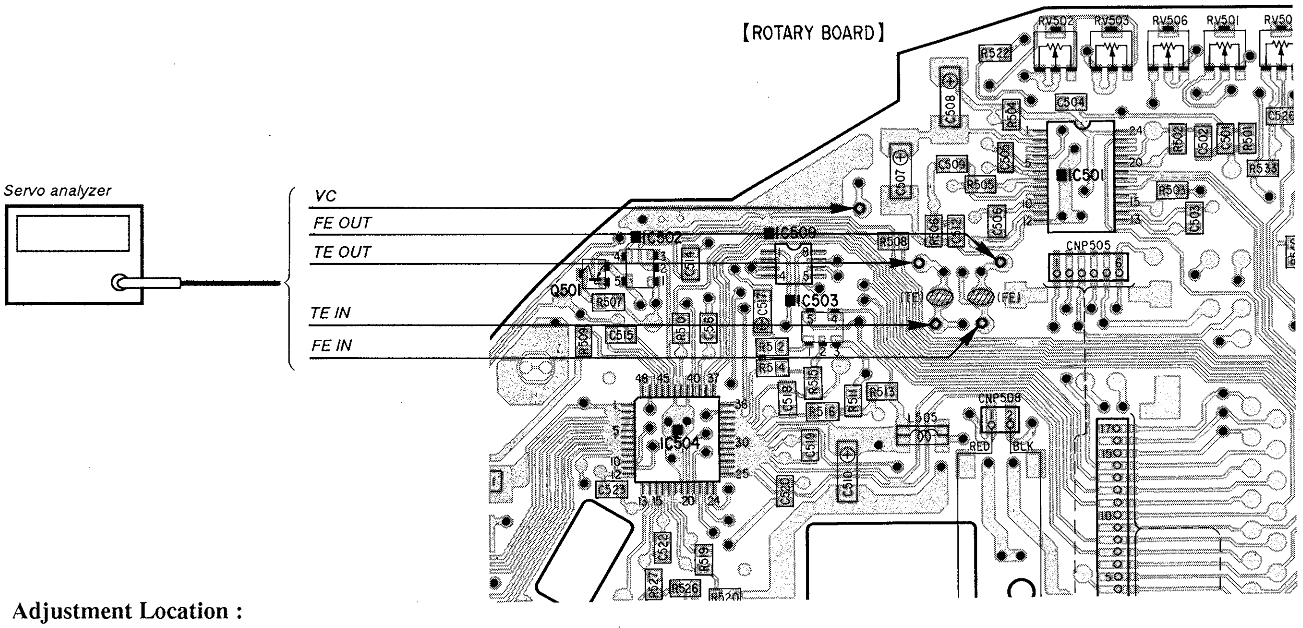
- Servo analyzer is needed to make this adjustment accurately.

Method of connecting to servo analyzer :

1. Disconnect the 2 soldered jumpers of TE & FE, and connect the servo analyzer as shown in the following diagram. At this time, connect IC504 to the output of servo analyzer, and the volumes to the input of servo analyzer.
2. Set the disturbance of servo analyzer at 1.2kHz, 50mV.

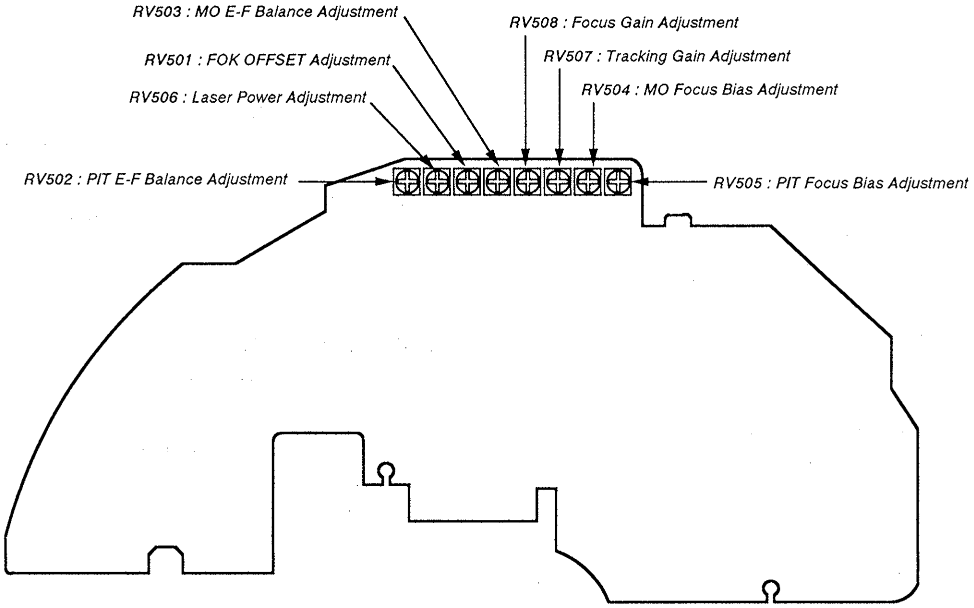
Procedure :

1. Insert MO disc (SONY 60 minute) in its magazine, and place it in the set.
2. Set MD (indash) test mode (See page 10).
3. Turn ON the FOCUS and CLV by pressing $\boxed{1}$.
4. Turn on the tracking servo by pressing $\boxed{2}$, and adjust RV507 (Tracking Gain Adjustment) and RV508 (Focus Gain Adjustment) so that both the tracking and focus become $-1\pm^{0.5}_{1.0}$ dB.
5. Disconnect the servo analyzer, and short the 2 soldered jumpers of TE & FE.


[ROTARY BOARD]
Servo analyzer
VC
FE OUT
TE OUT
TE IN
FE IN
RV502
RV503
RV506
RV501
R522
C508
R504
C504
C507
C509
C505
R505
IC501
R502
C502
C501
R501
R503
R533
C503
C526
IC502
IC509
R508
R506
C512
C506
CNP505
Q501
R507
C514
C517
IC503
(TE)
(FE)
R509
C515
R510
C516
R512
R514
C518
R515
R516
R511
R513
IC504
C519
C510
L505
CNP508
RED
BLK
C523
C520
C522
R519
R527
R526
R520

Adjustment Location :

【ROTARY BOARD】 (Conductor side)


RV503 : MO E-F Balance Adjustment
RV501 : FOK OFFSET Adjustment
RV506 : Laser Power Adjustment
RV502 : PIT E-F Balance Adjustment
RV508 : Focus Gain Adjustment
RV507 : Tracking Gain Adjustment
RV504 : MO Focus Bias Adjustment
RV505 : PIT Focus Bias Adjustment

SECTION 5
EXPLANATION OF IC TERMINALS

IC2 LC7216M (HIDEAWAY BOARD)

Pin No.	Pin name	I/O	Description
1	XIN	I	Connected to quartz oscillator. (7.2MHz)
2	CE *	–	Chip enable input terminal. Connected to MN1882417 (tuner micro computer) PLL-CE ㊶ pin
3	DATA *	I	Data input terminal. Connected to MN1882417 (tuner micro computer) PLL-DO ㊴ pin.
4	CLK *		Clock input terminal. Connected to MN1882417 (tuner micro computer) PLL-CLK ㊵ pin.
5	DATAO		Data output terminal. Connected to MN1882417 (tuner micro computer) PLL-DI ㊳ pin.
6 – 9	NC	–	Not used. (OPEN)
10	MONO	I	Forcible MONO switch over input terminal.
11	DX/$\overline{\text{LO}}$		Output terminal for DX/LO switch over. Outputs "L" level, at the time of LOCAL. (62) pin of MN1882417 (tuner micro computer) and active have the same output timing, except that they are reverse.
12	SEEK		FM IF COUNT Request terminal. Outputs "H" level at the time of taking the IF count of FM band; and output "H" level only at the time of operation needed for IF count of SEEK, BTM, etc.
13	AMIF		AM IF Signal input terminal. SC=0, SF=1, AF IF counter 15 to 500kHz (70mV rms min)
14	FMIF		FM IF Signal input terminal. SC=1, FM IF counter 10 to 60MHz (70mV rms min)
15	AMDSC	I	AM Local oscillation signal input terminal. DV=0 2 – 40kHz (70mV rms min) : SP=1 0.5 – 10kHz (70mV rms min) : SP=0
16	FMDSC	I	FM Local oscillation signal input terminal. DV=1, 10 – 130MHz (70mV rms min)
17	V_{DD}	–	Power terminal. (4.5V – 6.5V)
18	PD	O	Charge pump output terminal.
19	V_{SS}	–	GND Terminal.
20	XOUT	O	Connected to quartz oscillator. (7.2MHz)

* "H" Level & "L" level input voltages of CE, CL, DI terminals are V_H=2.2 – 6.5V & V_L=0.0-0.7V, regardless of the power supply voltage.

IC501 μPD75517GF-255-3B9 (HIDEAWAY BOARD)

Pin No.	Pin name	I/O	Description
1	KEY IN1	I	JOY STICK Remote control key input No. 0 by A/D conversion. * Refer to 1 (80) Pin.
2	VREF	I	Reference voltage input terminal of A/D conversion input. (5V)
3	Vcc	–	POWER Terminal of u-COM.
4	Vcc	–	POWER Terminal of u-COM.
5	KEY-ACTIVE	O	POWER ON/OFF switch over of A/D key. High = POWER ON, Low = POWER OFF
6	AMP-REM	O	Switch of AMP remote output. High = AMP-REM ON, Low = AMP-REM OFF
7	ANT-REM	O	Output for antenna remote. High = TUNER or TV ON, Low = Else
8	NC	–	Not used. (OPEN)
9	MUTE	O	Mute of HEAD UNIT internal. Stopped at the time of High=SOURCE switch over, and playing while Low
10	AUX-MUTE	O	Mute of UNI-LINK slave unit High internal slave playing, Low = Slave unit playingor stopped
11, 12	NC	–	Not used. (OPEN)
13	SUB-CLK	O	Serial CLOCK for SUB-VOL IC.
14	SUB-DATA	O	Serial DATA for SUB-VOL IC.
15	SUB-CE	O	CE for SUB-VOL IC.
16	NC	–	Not used.
17	LOUD	I	INITIAL Input terminal for LOUD/NO LOUD. Hi = NO LOUD, Low = LOUD
18	SUB-VOL	I	INITIAL Input terminal for SUB-VOL/NO SUB-VOL. Hi = NO SUB-VOL, Low = SUB-VOL
19	TV	–	Not used. (OPEN)
20	TIME POL	I	INITIAL Input terminal for TIME POLING/NO TIME POLING. Hi = NO TIME POLING, Low = TIME POLING
21	VOL-CE	O	Terminal to output CHIP ENABLE to E-VOLUME. (CXA1846M)
22	NC	–	Not used. (OPEN)
23	VOL-CLK	O	Terminal to output CLOCK to E-VOLUME. (CXA1846M)
24	VOL-DATA	O	Terminal to output DATA to E-VOLUME. (CXA1846M)
25 – 28	NC	–	Not used. (OPEN)
29	NC	–	Not used. (GND connection, in this device)
30	CAUTION	I	INITIAL Input terminal for CAUTION ALARM/NO CAUTION ALARM. Hi = NO CAUTION ALARM, Low = CAUTION ALARM
31	PORALITY	–	Not used. (GND connection, in this device)
32	NC	–	Not used. (GND connection, in this device)
33	Vss	–	GND Terminal of u-COM.
34 – 40	NC	–	Not used. (OPEN)
41	$\overline{\text{BUS ON2}}$	O	Terminal to control the ACTIVE of UNI-LINK (AUX side) High= BUS SLEEP, Low= BUS ACTIVE
42	$\overline{\text{SYS-RESET}}$	O	System reset terminal of UNI-LINK.
43	$\overline{\text{BUS ON1}}$	O	Terminal to control the ACTIVE of BUS of UNI-LINK. (MD side) High = BUS SLEEP, Low = BUS ACTIVE
44	CLK OUT	O	Clock output terminal of UNI-LINK.
45	BEEP	O	BEEP Output. Outputs a rectangular wave, when BEEP output requested.

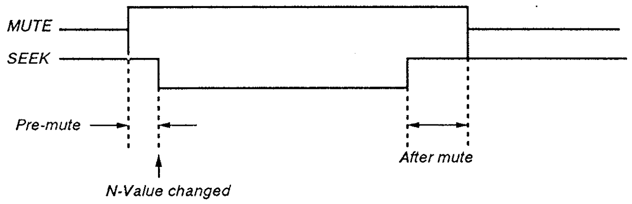
Pin No.	Pin name	I/O	Description
46	$\overline{\text{ACC-CHECK}}$	I	ACC SW Input terminal. High = ACC OFF, Low = ACC ON
47	KEY-ACK	I	Builds up from Low to High when KEY IN0 or KEY IN1 ispressed, while KEY-ACTIVE=LOW. Always HIGH, when KEY-ACTIVE=HIGH.
48, 49	NC	–	Not used. (GND connection, in this device)
50	DATA IN	I	DATA in Terminal of UNI-LINK.
51	DATA OUT	O	DATA out Terminal of UNI-LINK.
52	CLK IN	I	CLOCK output of UNI-LINK. Input from ㊹ Pin.
53	B/U-CHECK	I	Terminal for BACK UP CHECK. High = BACK UP ON, Low = BACK UP OFF
54	Vss	–	GND Terminal of u-COM.
55	NC	–	Not used. (GND connection, in this device)
56	NC	–	Not used. (OPEN)
57	Vss	–	GND Terminal.
58	X1	I	Terminal for main system clock. (4.19MHz)
59	X2	O	Terminal for main system clock. (4.19MHz)
60	$\overline{\text{RESET}}$	I	Reset terminal of u-COM.
61 – 64	NC	–	Not used. (OPEN)
65	NC	–	Not used. (GND connection, in this device)
66	$\overline{\text{TEL-MUTE}}$	I	TELEPHONE Mute input. Attaches – 20dB antenna to the audio output, with Low input.
67	SEL	–	Not used. (GND connection, in this device)
68 – 72	NC	–	Not used. (OPEN)
73	A•GND	–	GND Input terminal of A/D conversion input. (0V)
74	NC	–	Not used. (GND connection, in this device)
75	P-SEL. SW	I	POWER select SW input. High = POWER SEL ON, Low = POWER SEL OFF
76, 77	NC	–	Not used. (GND connection, in this device)
78	DSET•SEL	–	Not used.
79	NC	–	Not used. (GND connection, in this device)
80	KEY-IN0	I	YOY STICK Remote control key input No. 1 by A/D conversion.

Voltage Value	KEY-IN1 (①PIN)	KEY-IN0 ((80)PIN)
0V	SENS/BTM, SCRL/REC DATE	
0.37V	SOURCE	
0.76V	MUTE	
1.15V	MODE	
1.54V	PRESET+/DISC+	PRESET+/DISC+
1.93V	PRESET – /DISC –	PRESET – /DISC –
2.29V	LEVEL+	LEVEL+
2.73V	LEVEL –	LEVEL –
3.05V	SEEK+/AMS+	SEEK+/AMS+
3.46V	SEEK – /AMS –	SEEK – /AMS –
3.81V	OFF	
4.22V	SELECT	
4.61V	DSPL	

IC601 MN1882417SNV (HIDEAWAY BOARD)

Pin No.	Pin name	I/O	Description
1 – 6	NC	–	Not used. (OPEN)
7	VDD		Power input terminal.
8	X1		Oscillator connection terminals of 8MHz connected.
9	X2		
10	GND		GND Terminal.
11	XTI		Not used. (OPEN)
12	XTO		
13	NC	–	Connected to GND.
14	$\overline{\text{RESET}}$		Reset input terminal. AND of RESET and SYSTEM-RESET is input.
15	RDS-CLK		Not used. (OPEN)
16	BU-CHECK	I	BACKUP Detection input terminal This is a terminal to detect back up, and it is used as an interruption. In case it is on the same chassis as the master micro computer, the circuit is set so that it turns to "H" level when 8.5 ± 0.3V or more; and in case of HIDEAWAY it turns to "H" level when 7.7 ± 0.3V or more.
17	BUS-ON	I	Bus interface bus on input terminal. Interruption terminal to detect ON/OFF of the bus.
18 – 29	NC	–	Not used. (OPEN)
30	RDS-DATA	I	RDS-DATA Input terminal.
31	FM. AMS. IN	I	Input terminal for detecting FM voice level. H : Level high, L : Level low
32	AM. ST. IN	I	AM Stereo detection input terminal.
33 – 35	NC	–	Not used. (OPEN)
36, 37	NC	–	GND Connection, in this device.
38	PLL-DI	I	PLL DATA Input terminal. Connected to the DATA-OUT terminal of PLL-IC.
39	PLL-DO	O	PLL DATA Output terminal. Connected to the DATA-IN terminal of PLL-IC.
40	PLL-CLK	O	PLL CLK Output terminal. Connected to the CLK-IN terminal of PLL-IC.
41	PLL-CE	O	PLL CE Output terminal. Connected to the CE-IN terminal of PLL-IC.
42	REQUEST	O	Bus interface REQUEST terminal. Issues H, at the time of requesting for communication.
43	LINK-OFF	O	Bus interface INT-LINK terminal. LINK-OFF, when H level. L level, when bus connected. * Shall be kept L-output as it is, if in linked state during clock STOP mode. Set to input state, when BU is turned OFF.
44	SCK	I	Bus interface CLK-IN terminal.
45	SI	I	Bus interface DATA-IN terminal.
46	SO	O	Bus interface DATA-OUT terminal.
47	VDD		Power terminal. (+5V)
48	AVDD		Power terminal of AD input terminal. (+5V)
49	VREF		Reference voltage input of AD port (+ side) : Supplied from AVREF of MASTER micro computer.
50, 51	NC	–	Not used (GND connection, in this device)
52	SRAM-RST	I	S-RAM RESET Input terminal.

<table>
<tr><th>Pin No.</th><th>Pin name</th><th>I/O</th><th>Description</th></tr>
<tr><td>53</td><td>MUTE-SEL</td><td>I</td><td>Terminal to select the operation of MUTE. Refer to MUTE (66) pin.</td></tr>
<tr><td>54</td><td>MS-1</td><td rowspan="2">I</td><td rowspan="2">MODE Select input terminal. (for setting destination)
<table>
<tr><th>MS0</th><th>MS1</th><th>Model</th></tr>
<tr><td>L</td><td>L</td><td>(FM+MW+LW) AEP</td></tr>
<tr><td>L</td><td>H</td><td>(FM+MW+SW) Germany</td></tr>
<tr><td>H</td><td>L</td><td>(FM+AM) US</td></tr>
<tr><td>H</td><td>H</td><td>(FM+AM) Japan</td></tr>
</table></td></tr>
<tr><td>55</td><td>MS-0</td></tr>
<tr><td>56</td><td>AM-S</td><td rowspan="2">I</td><td rowspan="2">Voltage value detection terminal of the S meter of AM (MW : SW : LW)/FM</td></tr>
<tr><td>57</td><td>FM-S</td></tr>
<tr><td>58, 59</td><td>NC</td><td>–</td><td>Not used. (GND connection, in this device)</td></tr>
<tr><td>60</td><td>GND</td><td>–</td><td>Power GND.</td></tr>
<tr><td>61</td><td>TUNER-ON</td><td>O</td><td>TUNER-ON Output terminal. Outputs H, while TUNER ON.</td></tr>
<tr><td>62</td><td>DX/LO</td><td>O</td><td>DX/LO Output terminal.
Switches over between DX mode and LOCAL mode with commands from the master. FM Band, MW band, and SW (or LW) band each separately possess this mode. If there are multiple FM bands, like, FM1 & FM2, they possess a single mode for FM1 & FM2. Except for SW band, this terminal outputs matching to the mode, during the operations of SEEK, SCAN, etc (see table, below).

FM
MW
LW
<table>
<tr><th>Mode</th><th>Regular reception</th><th>SEEK 1st cycle</th><th>BTM 1st cycle</th><th>SEEK, 8TM 2nd cycle & on</th><th>TP-AUTO SEEK 1st cycle</th></tr>
<tr><td>LO</td><td>DX output</td><td>LO output</td><td>LO output</td><td>DX output</td><td>LO output</td></tr>
<tr><td>DX</td><td>DX output</td><td>DX output</td><td>LO output</td><td>DX output</td><td>LO output</td></tr>
</table>
SW
<table>
<tr><th>Mode</th><th>Regular reception</th><th>SEEK 1st cycle</th><th>BTM 1st cycle</th><th>SEEK, 8TM 2nd cycle & on</th></tr>
<tr><td>LO</td><td>LO output</td><td>LO output</td><td>LO output</td><td>DX output</td></tr>
<tr><td>DX</td><td>DX output</td><td>DX output</td><td>LO output</td><td>DX output</td></tr>
</table>
Note : If a command to change this mode is received during SEEK, the output is immediately switched over. However, the frequency at the end of 1st cycle takes the SEEKSTART frequency, as reference.
Ref : A reverse PORT of ACTIVE is provided for the OUT4 ⑪ pin of PLL-IC.</td></tr>
<tr><td>63</td><td>$\overline{\text{SEEK-OUT}}$</td><td>O</td><td>SEEK OUT Output terminal.
Used also as STOP REQUEST (IF count output request) and ABC cut, at the time of SEEK, BTM of AM (MW, LW, SW).
At the time of FM, it is used for AF operation network search, EON-TA search, CXIX search, & PTY search. Time constant switch over active "L" of S-meter.
Used for Low output, when TUNER OFF.
Basic timing

</td></tr>
<tr><td>64</td><td>AM-ON</td><td>O</td><td>AM-ON Output terminal.
(Both PLAYING, BIHIND) output "H" level, at the time of AM (MW, LW, SW)</td></tr>
<tr><td>65</td><td>FM-ON</td><td>O</td><td>FM-ON Output terminal.
(Both PLAYING, BIHIND) output "H" level, at the time of FM.</td></tr>
</table>

<table>
<tr><th>Pin No.</th><th>Pin name</th><th>I/O</th><th>Description</th></tr>
<tr><td>66</td><td>MUTE</td><td>O</td><td>Mute output. Operation differs according to (53) pin
<table>
<tr><th></th><th>TUNER PLAYING</th><th>TUNER BIHIND</th><th>TUNER OFF</th><th>ACC OFF</th><th>POW OFF</th><th>BUP OFF</th><th>BUS OFF</th></tr>
<tr><td>MUTE – SEL=1</td><td>Regular operation</td><td>Always L</td><td>L</td><td>L</td><td>L</td><td>Input</td><td>Input</td></tr>
<tr><td>MUTE – SEL=0</td><td>Regular operation</td><td>Always H</td><td>H</td><td>H</td><td>H</td><td>Input</td><td>Input</td></tr>
</table></td></tr>
<tr><td>67</td><td>AF-SEEK</td><td>O</td><td>Output terminal for AF-SEEK.
Used for AF operation network search, EON-TA search, C1X1X search, & PTY search of FM band. Used for time constant switch over of low pass filter. Active "H".</td></tr>
<tr><td>68</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>69</td><td>NC</td><td>–</td><td>Not used. (OPEN)</td></tr>
<tr><td>70</td><td>ST(MONO)</td><td>I/O</td><td>Terminal concurrently serving as ST-IND display input and forcible MONO output.
Turns ON stereo display, with "LOW" level input.
Display data is sent, when this input changes. This terminal outputs "L" level, at the time of forcible monaural output (refer to MONO/ST, SENS functions).
Always valid at the time of FM band. MS4 at the time of AM (MW only) band (valid only when the mode select terminal is "1"). Changes with the command from master. When this command is received, display data with edge attached is sent back. FM, AM Independently possess this mode, and forcible monaural "L" level is output regardless of the mode, during TA interruption or alarm.
Note : STEREO-OFF is always sent, at the time of forcible monaural output.</td></tr>
<tr><td>71</td><td>SD-IN</td><td>I</td><td>Terminal to decide the stop level of SEEK, AUTO-MEMORY, SCAN, etc.</td></tr>
<tr><td>72</td><td></td><td>–</td><td>Not used. (OPEN)</td></tr>
<tr><td>73</td><td></td><td>–</td><td>Not used. (OPEN)</td></tr>
<tr><td>74 – 80</td><td>NC</td><td>–</td><td>Not used. (OPEN)</td></tr>
</table>

IC301 AK4318 (MAIN BOARD)

Pin No.	Pin name	I/O	Description
1	NC	–	Not used. (OPEN)
2	VREF	O	Reference voltage output terminal. (AVDD) – 3.6V
3	NC	–	Not used (GND connection in this device).
4	AVDD	–	Analog power supply terminal. (+5V)
5	AVss	–	Analog GND terminal.
6	TST	I	Test pin. Set open or at "L" (GND connection, in this device).
7	ZMUTE	I	Zero mute terminal Detects zero input and mutes the output, while "H".
8	DIF0	I	Input format terminal (GND connection, in this device). Handles 4 modes.
9	DIF1	I	
10	DVss	–	Digital GND terminal.
11	DVDD	–	Digital power supply terminal. (+5V)
12	LRCK	I	L/R Clock terminal Determines the channel of the input serial data.
13	BICK	I	Serial bit clock terminal. Clocks for latching the serial data.
14	SDATA	I	Serial data input terminal. 2's Complement, MSB first
15	$\overline{\text{PD}}$	I	Reset terminal. Filter and modulator become reset, when this pin is set at "L".
16	XTI	I	Clock input terminal. Either a crystal oscillator is connected between this pin and XTO, or external CMOS clocks are input to XTI. The frequency of clocks can be selected with CKS pin.
17	XTO	O	Quartz oscillator output terminal. When using a quartz oscillator, it connected between this pin and XTI. When using external clocks, this pin is kept open.
18	SMUTE	I	Soft mute terminal. (pull down pin) Starts soft mute while "H", and cancels it while "L".
19	DEM0	I	De-emphasis mode terminal. Corresponds to frequency.
20	DEM1	–	Not used (GND connection, in this device).
21	CKS	I	Clock selection terminal (GND connection, in this device). "L" : CLS=256fs, "H" : CLK=384fs
22	DZF	–	Not used. (OPEN)
23	AOUTR –	O	R ch Analog negative output terminal.
24	AOUTR+	O	R ch Analog positive output terminal.
25	AOUTL –	O	L ch Analog negative output terminal.
26	AOUTL+	O	L ch Analog positive output terminal.
27, 28	NC	–	Not used. (OPEN)

IC310 μ PD78056YGC-W08-3B9 (MAIN BOARD)

Pin No.	Pin name	I/O	Description
1	NOSE SW	I	Input terminal showing front panel or no front panel. 5V : Front panel, 0V : No front panel
2	HOME/TOP SW	I	Input terminal of HOME as well as TOP POSITION detecting SW of TURN TABLE. 5V : HOME, 2.5V : TOP, 0V : Others
3	PANEL	I	Input terminal showing OPEN/CLOSE of front panel. 5V : CLOSE, 0V : OPEN
4	AVss	–	GND Potential of A/D converter.
5	LDPOWER	O	Laser power adjusting terminal. L : Low reflection DISC (MO) 0.5mW : 2.9V, H : High reflection DISC (CD) 0.25mW: 2.7V
6	RMS	–	RMS Output of DRAM (D/A output). (OPEN, in this device).
7	AVREF1	–	Reference voltage input of D/A converter. (GND)
8	LCD-BUSY	I	Terminal to input BUSY from LCD driver. (MSM6665C-02)
9	LCD-DATAOUT	O	Terminal to output DATA to LCD driver. (MSM6665C-02)
10	LCD-CLKOUT	O	Terminal to output CLK to LCD driver. (MSM6665C-02)
11	SRDT	I	Terminal to input READ DATA for serial communication to MD servo IC.
12	SWDT	O	Terminal to output WRITE DATA for serial communication to MD servo IC.
13	SCK	O	Terminal to send CLOCK for serial communication to MD servo IC.
14	LINKOFF	O	Terminals for uni-link
15	BUS-REQUEST	O	
16	BUS-DATAIN	I	
17	BUS-DATAOUT	O	
18	BUS-CLKIN	I	
19	RF-SW0	O	DISC Mode. L : MO, H : CD
20	RF-SW1	O	DISC Mode. L : GROOVE, H : PIT
21	ASY-SW	O	At the time of PIT playback : Fixed at HIGH At the time of MO playback : Always H, L at the time of track jump
22	AGC-SW	O	L : FOCUS end (AGC time constant long), H : FOCUS start (AGC time constant short)
23	MIRR-SW	O	At the time of PIT playback : Fixed at LOW At the time of MO playback : Always H, CLV at the time of track jump, L until the build up of ON of tracking & thread becomes OK.
24	DFCT-SW	O	L : All servo ON, H : FOCUS start
25	SLD-MUTE	O	Motor drive control output terminal. L : OFF, H : ON
26	LD ON	O	LASER ON/OFF output. L : ON, H : OFF
27	NC	–	Not used. (OPEN)
28	CD/MO	I	CD/MO Identifying terminal. H : CD, L : MO
29	SENS	I	Terminal to input SENSE from CXA1082, CXD2525.
30	LOCK	I	Terminal to input from CXD2525. L : CLV UNLOCK, H : CLV LOCK
31, 32	NC	–	Not used. (OPEN)
33	Vss	–	Micro computer GND. (0V)
34	DIRC	O	L : 1 Track Jump End, H : 1 Track Jump TZC detect
35	TEST MODE	I	L : Normal, H : Indash Singular test mode

Pin No.	Pin name	I/O	Description
36	SBMN	O	CXD2526 SBMN switch over. H : SUB, L : MAIN
37	WRMN	O	L : DT=RAM Write stop, H : DRAM Write start
38	OPEN LED	O	Turns ON, when ILL ON and PANEL OPEN. H : OFF, L : ON
39	COLOR	O	Terminal to switch over the LED color of DISPLAY. L : AMBER, H : GREEN, initial LOW
40	SYNC-SEL	O	SYNC Select terminal of SUBQ. L : SUBQ, H : ADIP
41	XINT	I	Interruption of CSD2526. Build-up edge detection.
42	LCD CE	O	CHIP ENABLE to LCD driver. (MSM66652C-02) H : ENABLE, L : DISABLE
43	LCD C/D	O	COMMAND/DATA SELECT to LCD driver. (MSM66652C-02)
44	MD-POWERON	O	Mechanism deck power terminal. L : OFF, H : ON
45	TABLE-UPDOWN	O	Terminal of the turn table up/down motor.
46	BEEP	O	Buzzer output.
47	TABLE-R	O	Driver IC control terminal of the turn table drive motor.
48	TABLE-L	O	
49	TABLE-BRAKE	O	Brake terminal of the turn table up/down motor.
50	MUTE	O	Audio MUTE output. L : CANCEL, H : MUTE
51	TPS/NOSE SEL	O	H : TPS, L : NOSE Terminal to output the selection of TPS/NOSE interruption.
52	MOD1	–	Not used. (OPEN)
53	MOD2	–	Not used. (OPEN)
54	DEEMP	O	DEEMPHASIS terminal. L : ON, H : OFF
55	XRST	O	2525, 2526 with build up, terminal to reset to digital filter.
56	XLAT	O	LATCH for serial communication to servo IC.
57	POWER ON	O	LED ON/OFF of general keys of NOSE. L : LED OFF, H : LED ON
58	ILL ON	O	LED ON/OFF of SOURCE key of NOSE L : LED OFF, H : LED ON
59	KEY-ACTIVE	O	ON/OFF of the key of A/D input. L : Key non-operational, H : Operational
60	$\overline{\text{RESET}}$	I	RESET Terminal of micro computer.
61	SQSY/ATSY	I	SUB Q SYNC Interruption. Go down edge detection (when PIT) AIDP SYNC Interruption. Go down edge detection (when GROOVE)
62	KEYACK/SIRCS	I	KEYACK Terminal, when ILL ON of P126 = L. KEY-ACTIVE of P127 is built up from L to H, as soon as this terminal is built up from L to H by key operation. SIRCS Input terminal of remote control, when ILL ON of P126 = H.
63	TPS/NOSE ON	I	Optical sensor input for detecting turn table rotation. Also for WAKE UP from SLEEP MODE of micro computer dueto NOSE ON.
64	BU-CHECK	I	BACKUP Check terminal. L : No, H : Yes
65	MST	I	Magazine/no magazine detecting terminal. L : Nomagazine, H : Magazine
66	$\overline{\text{BUS-ON}}$	I	Uni-link terminal. L : BUS ACTIVE, H : SLEEP
67	FOK	I	FOCUS OK. L : NG, H : OK
68	V_{DD}	–	Micro computer power supply. (5V)
69	X2	–	Connection terminal for main system clock.
70	X1	–	Connection terminal for main system clock.

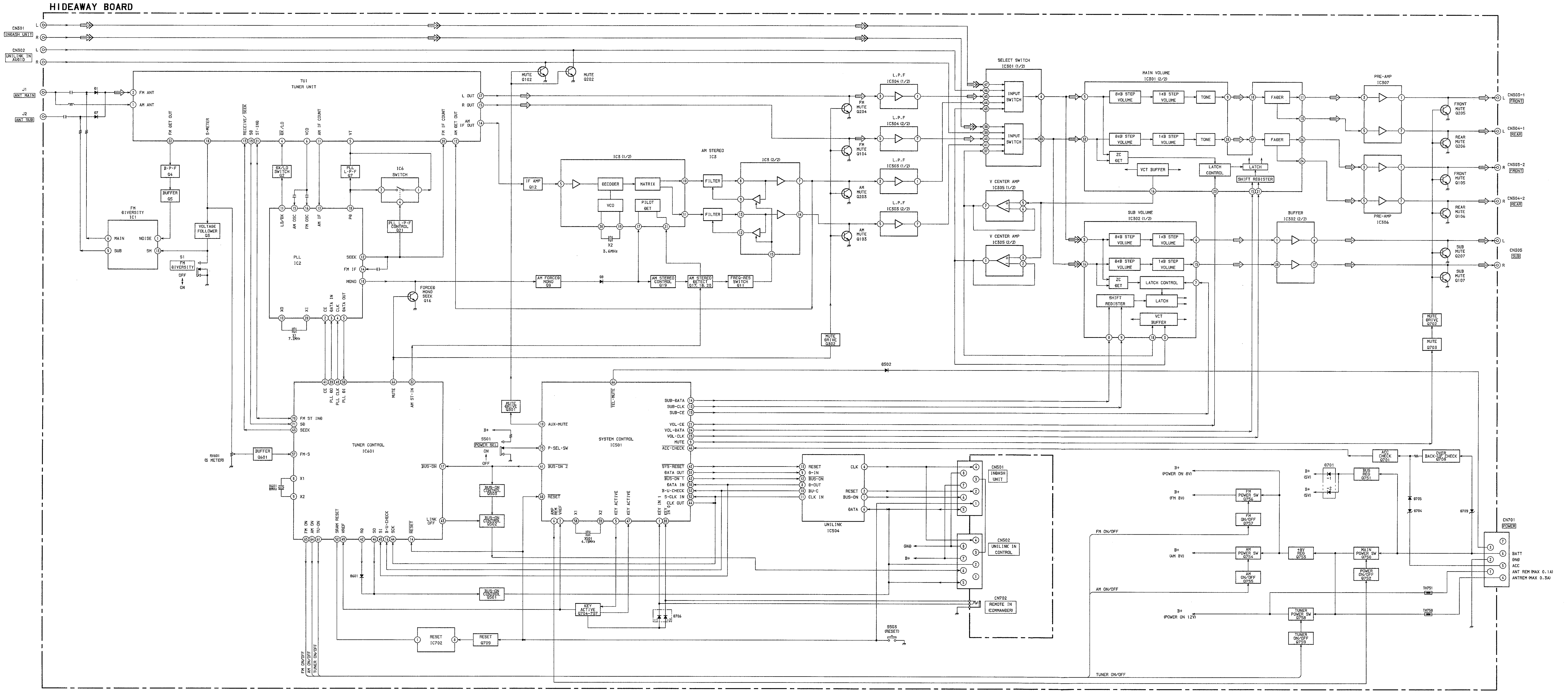
<table>
<tr><th>Pin No.</th><th>Pin name</th><th>I/O</th><th>Description</th></tr>
<tr><td>71</td><td>IC</td><td>–</td><td>Connection terminal for main system clock.</td></tr>
<tr><td>72</td><td>XT2</td><td>–</td><td>Not used. (OPEN)</td></tr>
<tr><td>73</td><td>TABLE-
UPDWN SW</td><td>I</td><td>Position detection SW input of turn table
L : Others, H : Top or bottom limit position</td></tr>
<tr><td>74</td><td>AVDD</td><td>–</td><td>Analog power supply of A/D converter.</td></tr>
<tr><td>75</td><td>AVREF0</td><td>–</td><td>Reference voltage input of A/D converter.</td></tr>
<tr><td>76</td><td>KEY-IN0</td><td>I</td><td rowspan="2">Key scan by A/D input.
<table>
<tr><th>Voltage value</th><th>KEY-IN0((76)PIN)</th><th>KEY-IN1((77)PIN)</th></tr>
<tr><td>0V</td><td>TUNER</td><td>DSP</td></tr>
<tr><td>0.31V</td><td>CD</td><td>MUTE</td></tr>
<tr><td>0.64V</td><td>MD</td><td>1</td></tr>
<tr><td>0.94V</td><td>VISUAL</td><td>2</td></tr>
<tr><td>1.25V</td><td>OFF</td><td>3</td></tr>
<tr><td>1.52V</td><td>SEEK+/AMS+</td><td>4</td></tr>
<tr><td>1.84V</td><td>SEEK – /AMS –</td><td>5/INTRO</td></tr>
<tr><td>2.11V</td><td>LIST</td><td>6/REPEAT</td></tr>
<tr><td>2.46V</td><td>LEVEL –</td><td>7/SHUFFLE</td></tr>
<tr><td>2.77V</td><td>SEL</td><td>8/D. SCAN</td></tr>
<tr><td>3.11V</td><td>LEVEL+</td><td>9/BANK</td></tr>
<tr><td>3.44V</td><td>PRESET – /DISC – /MANU –</td><td>10</td></tr>
<tr><td>3.75V</td><td>PRESET+/DISC+/MANU+</td><td>* * *</td></tr>
<tr><td>4.08V</td><td>SCRL/REC DATE</td><td>* * *</td></tr>
<tr><td>4.39V</td><td>DSPL</td><td>* * *</td></tr>
<tr><td>4.69V</td><td>* * *</td><td>* * *</td></tr>
</table></td></tr>
<tr><td>77</td><td>KEY-IN1</td><td>I</td></tr>
<tr><td>78</td><td>INITIALIZE</td><td>I</td><td>0V : Digital, 5V : Analog</td></tr>
<tr><td>79</td><td>NC</td><td>–</td><td>Not used. (GND connection, in this device)</td></tr>
<tr><td>80</td><td>TEMP</td><td>I</td><td>Mechanism deck temperature detection. HIGH TEMP ERROR processing is executed immediately after dropping below a certain voltage value.
HIGH TEMP, when less than 0.5889V.
HIGH TEMP cancelled, when more than 0.6349V.</td></tr>
</table>

IC316 CXD101109Q (MAIN BOARD)

Pin No.	Pin name	I/O	Description
1	MTOT	O	Terminal to output mute to CXD2351R.
2	XABS	I	Serial transfer synchronizing pulse between CXD2526Q and CXD2531R.
3	ACDI	I	Terminal to input data from CXD2526Q.
4	Vss	–	GND.
5	ACLK	I	Serial transfer clocks (128Fs) from CXD2526Q.
6	C2OT	O	C2PO Output to CXD2531R.
7	C2PO	I	Error status of the input data from CXD2526Q.
8	XARQ	I	Data transfer request from CXD2531R to CXD2526Q.
9	SHCK	–	Not used. (OPEN)
10	TI0	–	Chip reservation terminal. (GND connection, in this device)
11	TO0	–	Chip reservation terminal. (OPEN, in this device)
12	TO1	–	Chip reservation terminal. (OPEN, in this device)
13	VDD	–	Power terminal. (+5V)
14	SWDT	I	Data input terminal of serial micro computer interface.
15	SCLK	I	Transfer clock input terminal of serial micro computer interface.
16	XLAT	I	Latch pulse input terminal of serial micro computer interface.
17	THRU	–	Function OFF input of CXD101109Q. (ON when "L", OFF when "H") (GND connection, in this device)
18	C2MD	–	Error concealment mode setting input 1. (GND connection, in this device)
19	C2M2	–	Error concealment mode setting input 2. (GND connection, in this device)
20	Vss	–	GND.
21	REC	–	Record/playback command (record when "H"). (GND connection, in this device)
22	SCKO	–	Not used. (OPEN)
23	SLTO	–	Not used. (OPEN)
24	SDTO	–	Not used. (OPEN)
25	TC2	–	Traverse count signal input 2. (for shock detection circuit). (GND connection, in this device)
26	TC1	–	Traverse count signal input 1. (for shock detection circuit). (GND connection, in this device)
27	OFTR	–	Off track signal input (for shock detection circuit). (GND connection, in this device)
28	DFCT	–	Defect detection signal input (for shock detectioncircuit). (GND connection, in this device)
29	VDD	–	Power terminal. (+5V)
30	NC	–	Not used. (OPEN)
31	XRST	I	Reset input (reset when "L") terminal.
32	SCTX	–	Record state setting input (for shock detection circuit). (GND connection, in this device)

SECTION 6
BLOCK DIAGRAMS

6-1. BLOCK DIAGRAM – HIDEAWAY SECTION –


HIDEAWAY BOARD
CN301 INDASH UNIT
CN302 UNILINK IN AUDIO
J1 ANT MAIN
J2 ANT SUB
D1
D7
TU1 TUNER UNIT
FM ANT
AM ANT
FM DET OUT
S-METER
RECEIVE/ SEEK
SD
ST·IND
DX/LO
VCO
AM IF COUNT
VT
FM IF COUNT
AM DET OUT
L OUT
R OUT
AM IF OUT
B·P·F Q4
BUFFER Q5
FM DIVERSITY IC1
MAIN
SUB
NOISE
SM
VOLTAGE FOLLOWER Q3
S1 FM DIVERSITY
OFF
ON
DX/LO SWITCH Q2
PLL L·P·F Q7
IC6 SWITCH
PLL L·P·F CONTROL Q21
LO/DX
AM OSC
FM OSC
AM IF
PD
PLL IC2
SEEK
FM IF
MONO
XO
XI
CE
DATA IN
CLK
DATA OUT
X1 7.2MHz
FORCED MONO SEEK Q16
MUTE Q102
MUTE Q202
IF AMP Q12
IC3 (1/2)
DECODER
MATRIX
VCO
PILOT DET
X2 3.6MHz
AM STEREO IC3
FILTER
FILTER
IC3 (2/2)
AM FORCED MONO Q9
D8
AM STEREO CONTROL Q19
AM STEREO DETECT Q17, 18, 20
FREQ-RES SWITCH Q11
FM MUTE Q204
FM MUTE Q104
AM MUTE Q203
AM MUTE Q103
L.P.F IC304 (1/2)
L.P.F IC304 (2/2)
L.P.F IC303 (1/2)
L.P.F IC303 (2/2)
MUTE DRIVE Q302
SELECT SWITCH IC301 (1/2)
INPUT SWITCH
INPUT SWITCH
V CENTER AMP IC305 (1/2)
V CENTER AMP IC305 (2/2)
MAIN VOLUME IC301 (2/2)
8dB STEP VOLUME
1dB STEP VOLUME
TONE
ZC DET
VCT BUFFER
LATCH CONTROL
LATCH
SHIFT REGISTER
FADER
FADER
SUB VOLUME IC302 (1/2)
LATCH CONTROL
SHIFT REGISTER
LATCH
VCT BUFFER
BUFFER IC302 (2/2)
PRE-AMP IC307
PRE-AMP IC306
FRONT MUTE Q205
REAR MUTE Q206
FRONT MUTE Q105
REAR MUTE Q106
SUB MUTE Q207
SUB MUTE Q107
MUTE DRIVE Q702
MUTE Q703
CN303-1 FRONT
CN304-1 REAR
CN303-2 FRONT
CN304-2 REAR
CN305 SUB
D502
TUNER CONTROL IC601
CE
PLL DO
PLL CLK
PLL DI
MUTE
AM ST·IN
FM ST IND
SD
SEEK
FM·S
X1
X2
X601 8MHz
RV601 (S METER)
BUFFER Q601
BUS·ON
LINK OFF
FM ON
AM ON
TU·ON
SRAM RESET
VREF
RQ
SO
SI
B·U·CHECK
SCK
RESET
D601
MUTE DRIVE Q301
B+
S501 POWER SEL
ON
OFF
BUS-ON CONTROL Q503
BUS-ON CONTROL Q502
BUS-ON CONTROL Q501
SYSTEM CONTROL IC501
TEL·MUTE
AUX-MUTE
P·SEL·SW
BUS·ON 2
RESET
AMP REM VREF
X1
X2
X501 4.19MHz
KEY ACTIVE
KEY ACTIVE
KEY IN 1
KEY IN 0
SUB-DATA
SUB-CLK
SUB-CE
VOL·CE
VOL·DATA
VOL·CLK
MUTE
ACC·CHECK
SYS·RESET
DATA OUT
BUS·ON 1
DATA IN
B·U·CHECK
S·CLK IN
CLK OUT
KEY ACTIVE Q704-707
D706
RESET IC702
RESET Q709
FM ON/OFF
AM ON/OFF
TUNER ON/OFF
UNILINK IC504
RESET
D-IN
BUS-ON
D-OUT
BU-C
CLK IN
CLK
RESET
BUS-ON
DATA
CN501 INDASH UNIT
CN502 UNILINK IN CONTROL
GND
B+
CN702 REMOTE IN (COMMANDER)
S503 (RESET)
ACC CHECK Q701
OVER BACK-UP CHECK Q708
D701
B+ (5V)
B+ (5V)
BUS REG Q751
B+ (POWER ON 8V)
B+ (FM 8V)
FM POWER SW Q756
FM ON/OFF Q757
B+ (AM 8V)
AM POWER SW Q754
AM ON/OFF Q755
+8V REG Q753
MAIN POWER SW Q750
POWER ON/OFF Q752
D705
D704
D709
B+ (POWER ON 12V)
TUNER POWER SW Q758
TUNER ON/OFF Q759
TH751
TH750
CN701 POWER
BATT
GND
ACC
ANT REM (MAX 0.1A)
ANTREM (MAX 0.3A)

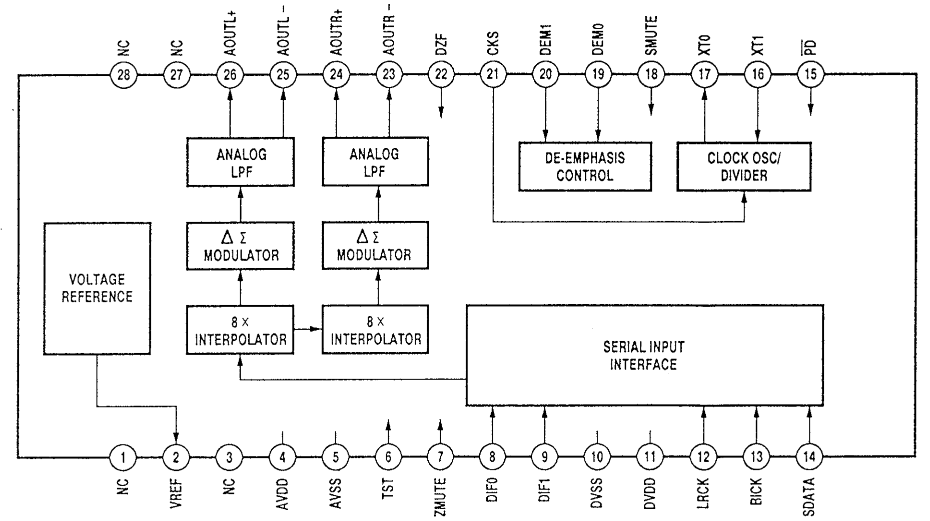
6-2. BLOCK DIAGRAM – MAIN SECTION –

OPTICAL PIC-UP BLOCK
ROTARY BOARD
MAIN BOARD
D OUT BOARD
DISPLAY BOARD
BSL FLEXIBLE BOARD
SENSOR FLEXIBLE BOARD
LAMP BOARD
RF IC504
EFM/CIRC IC506
SHOCK-RESISTANT MEMORY IC505
4M DRAM IC504
ATRAC ENCODER/DECODER IC502
D/A CONVERTER DIGITAL FILTER IC301
MIX IC201 (1/2)
MIX IC101 (1/2)
FILTER IC201 (2/2)
FILTER IC101 (2/2)
MUTING Q201
MUTING Q101
SERVO IC511
MECHANISM/KEY CONTROL IC510
TRACKING/FOCUS COIL, SLED/BSL MOTOR DRIVER IC506
INVERTER IC515
CLOCK IC503
DC-DC CONVERTER IC512
OSCILLATOR
REFERENCE VOLTAGE
SUB PANEL FLEXIBLE BOARD
BUS INTERFACE IC306
RESET IC309
LCD DRIVE IC801
BUFFER IC803
LCD801 LIQUID CRYSTAL DISPLAY
LED DRIVE
BIAS SWITCH Q801
TURN MOTOR DRIVE IC508
UP-DOWN MOTOR CONTROL
BUZZER DRIVE Q529
5V REG CONTROL IC514
TPS Q526
TPS/NOISE SELECT SWITCH IC515
TRACKING COIL
FOCUS COIL
M501 SLED MOTOR
M502 BSL MOTOR
M503 UP-DOWN MOTOR
M504 MD TURN L/R MOTOR
SW501 INNER LIMIT
SW502 U/P SW
BZ501 BUZZER
X501 45MHz
X502 5MHz
FL801 (OPEN)
CNJ502-1 (TO HIDEAWAY UNIT)
CNJ502-2 (TO HIDEAWAY UNIT)
OUT DIGITAL UNILINK

- **IC BLOCK DIAGRAMS**

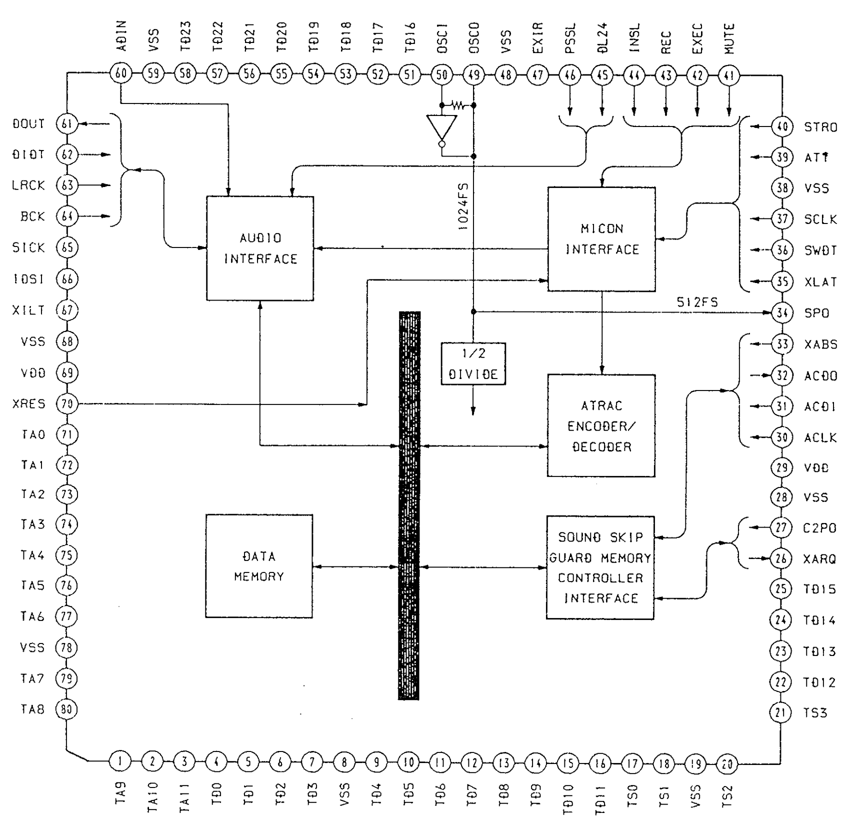
– MAIN SECTION –

IC301 AK4318



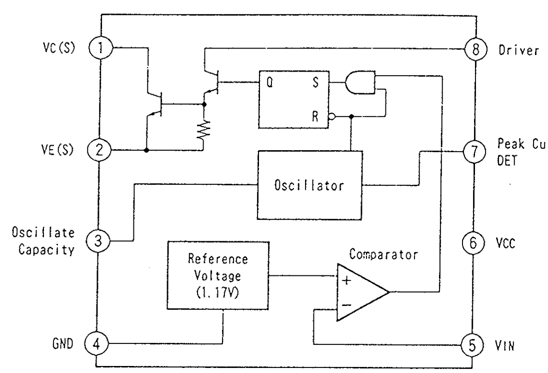
ANALOG LPF
ΔΣ MODULATOR
8× INTERPOLATOR
DE-EMPHASIS CONTROL
CLOCK OSC/DIVIDER
VOLTAGE REFERENCE
SERIAL INPUT INTERFACE

IC302 CXD2531R



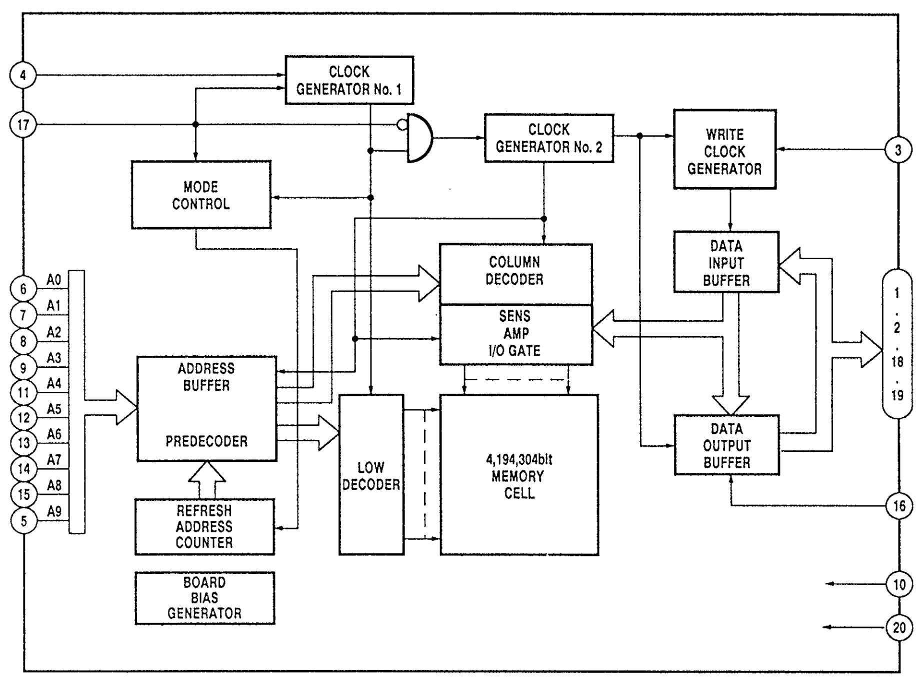
AUDIO INTERFACE
MICON INTERFACE
1/2 DIVIDE
ATRAC ENCODER/DECODER
DATA MEMORY
SOUND SKIP GUARD MEMORY CONTROLLER INTERFACE

IC312 M5291FP



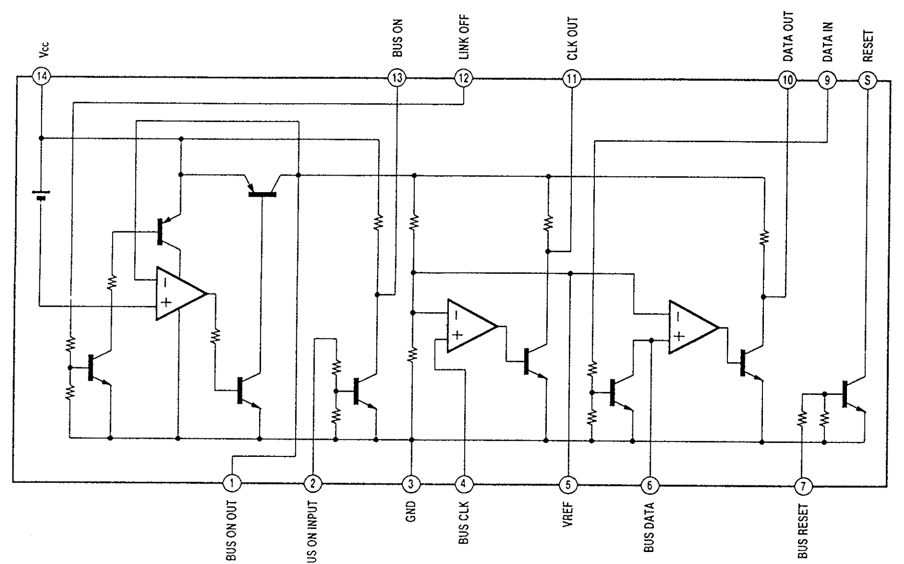
Oscillator
Reference Voltage (1.17V)
Comparator
Driver
Peak Current GET
Oscillate Capacity

IC304 CXK414400TM-12

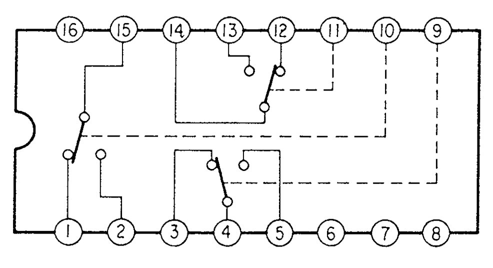


CLOCK GENERATOR No.1
CLOCK GENERATOR No.2
MODE CONTROL
WRITE CLOCK GENERATOR
COLUMN DECODER
SENS AMP I/O GATE
DATA INPUT BUFFER
ADDRESS BUFFER
PREDECODER
REFRESH ADDRESS COUNTER
BOARD BIAS GENERATOR
LOW DECODER
4,194,304bit MEMORY CELL
DATA OUTPUT BUFFER

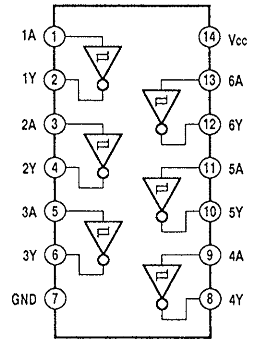
IC308 MM1176XFF



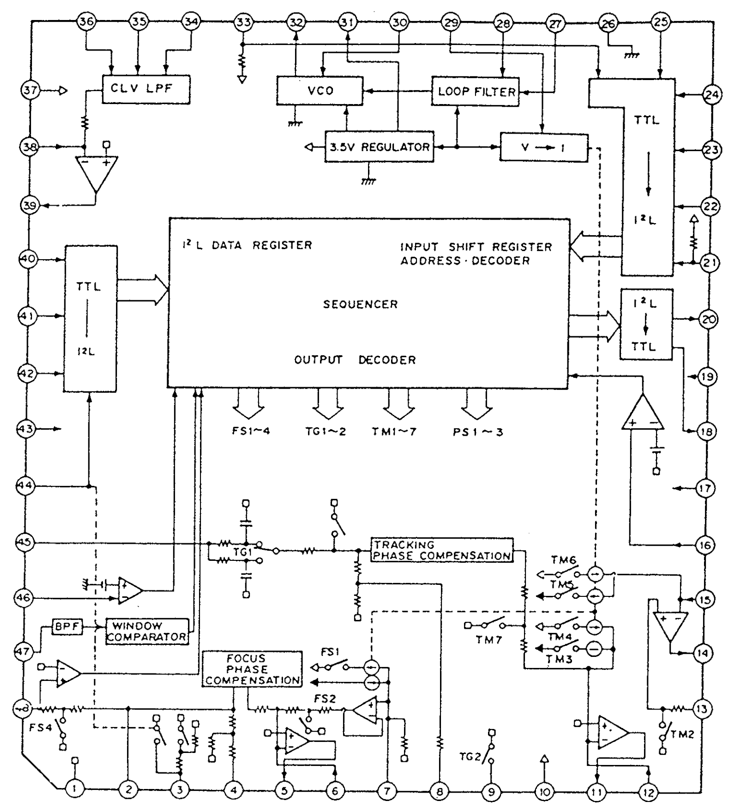
IC313 HD14053BFP



IC315 TC74HC14AP

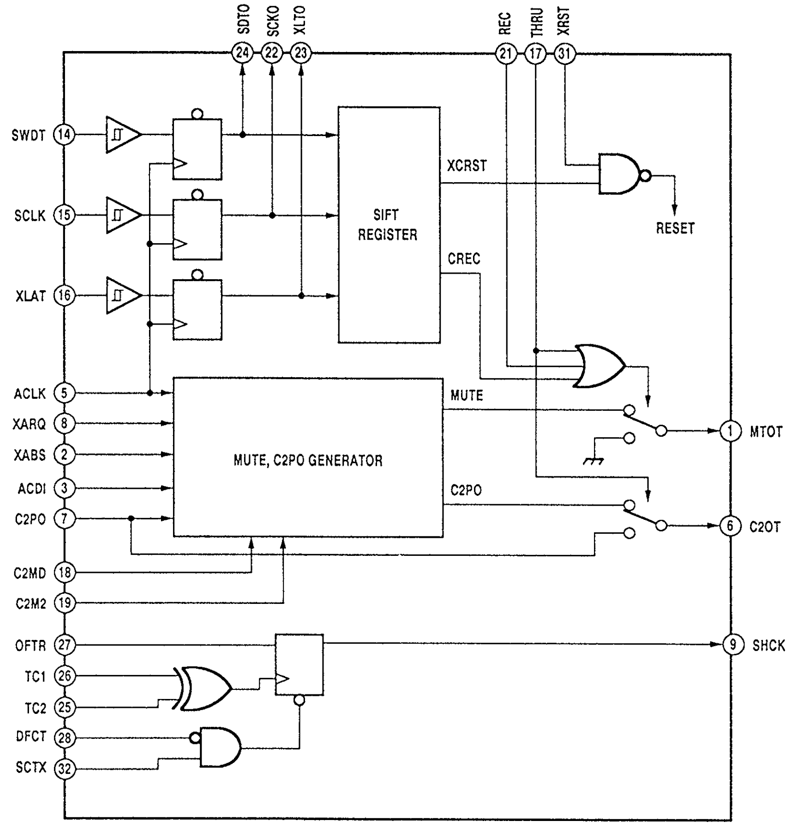


IC311 CXA1082BQ



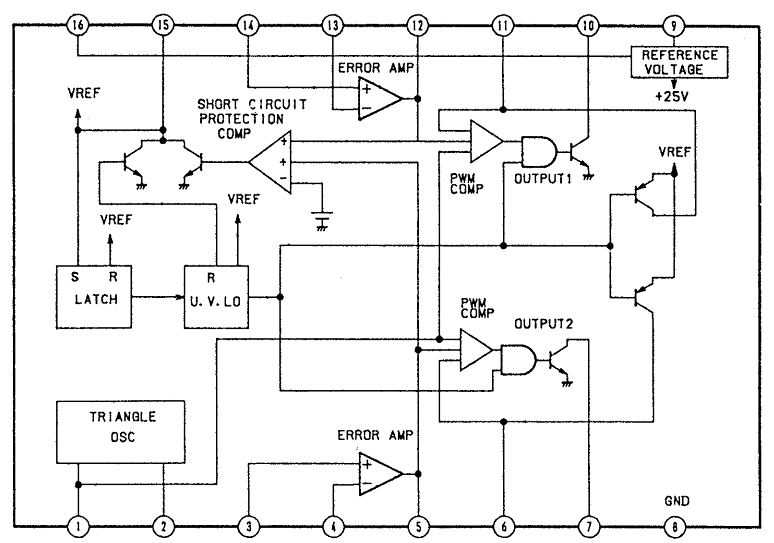
CLV LPF
VCO
LOOP FILTER
3.5V REGULATOR
I²L DATA REGISTER
INPUT SHIFT REGISTER ADDRESS DECODER
SEQUENCER
OUTPUT DECODER
TRACKING PHASE COMPENSATION
WINDOW COMPARATOR
FOCUS PHASE COMPENSATION

IC316 CDX101109Q



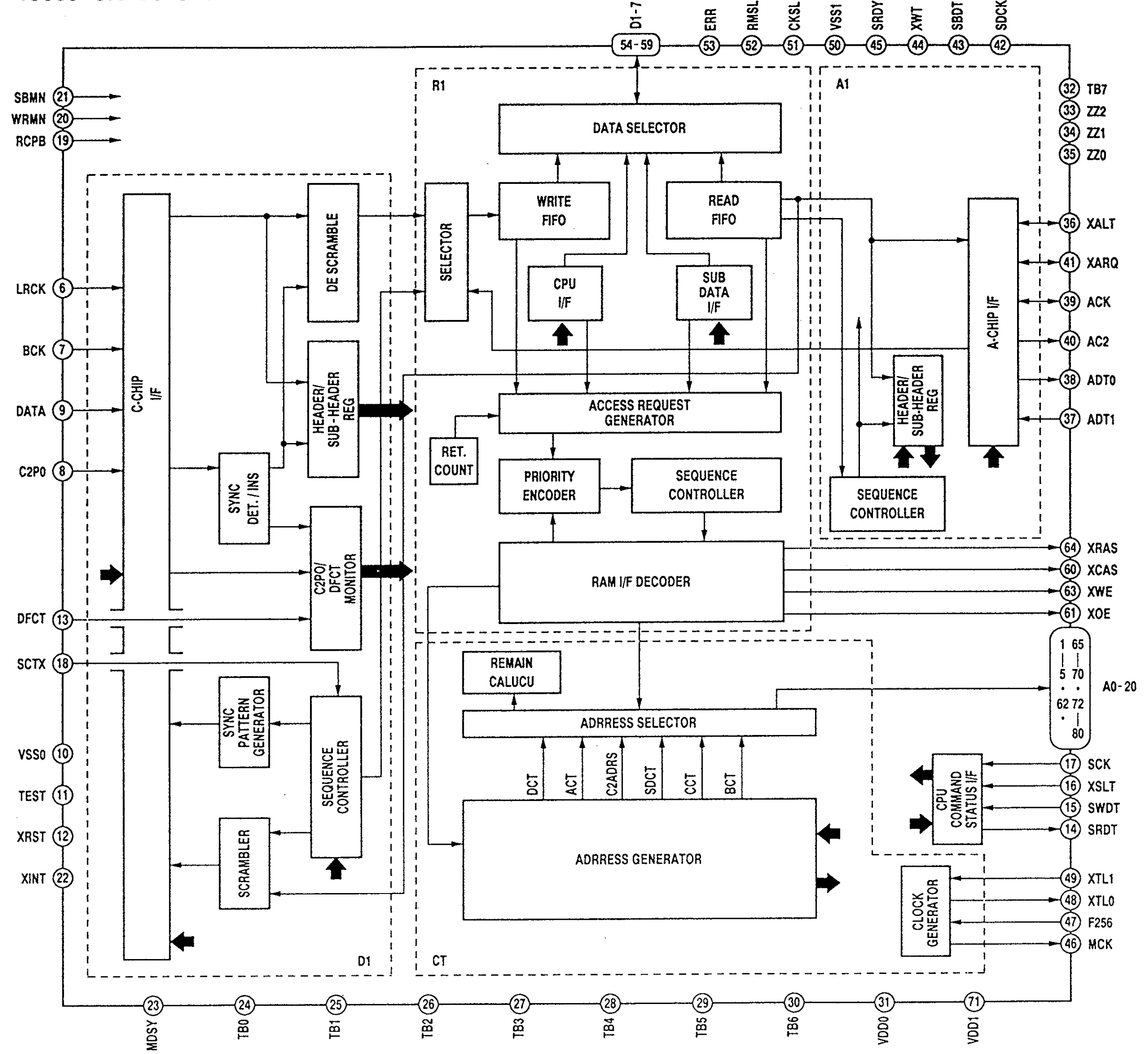
SIFT REGISTER
MUTE, C2PO GENERATOR

IC314 TL1451ACDB



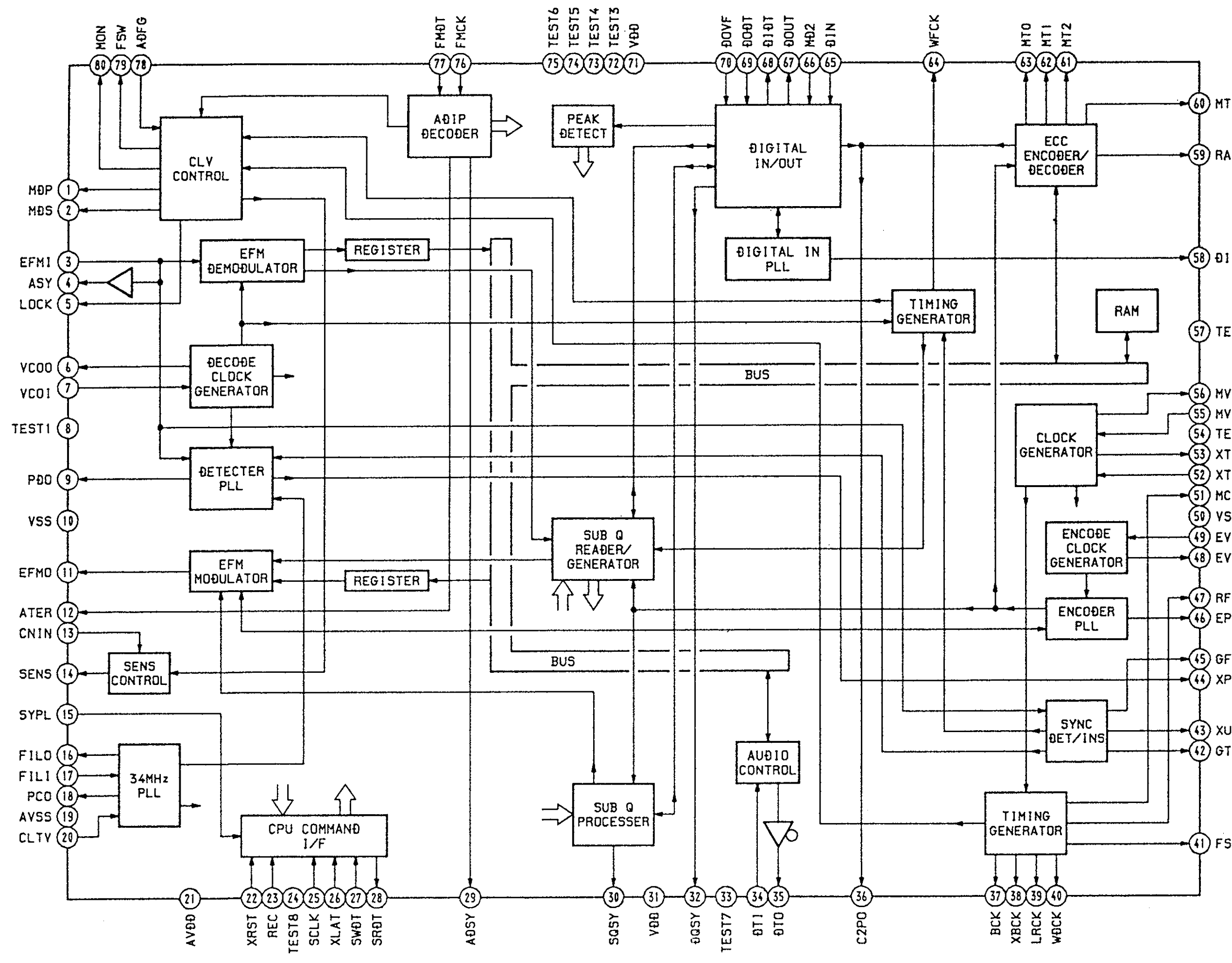
REFERENCE VOLTAGE +25V
ERROR AMP
SHORT CIRCUIT PROTECTION COMP
PWM COMP
OUTPUT1
OUTPUT2
LATCH
U.V.LO
TRIANGLE OSC

IC305 CXD2526AR



DATA SELECTOR
WRITE FIFO
READ FIFO
CPU I/F
SUB DATA I/F
SELECTOR
DE SCRAMBLE
HEADER/SUB HEADER REG
ACCESS REQUEST GENERATOR
PRIORITY ENCODER
SEQUENCE CONTROLLER
RAM I/F DECODER
SYNC DET./INS
C2PO/DFCT MONITOR
SYNC PATTERN GENERATOR
SEQUENCE CONTROLLER
SCRAMBLER
REMAIN CALUCU
ADDRESS SELECTOR
ADDRESS GENERATOR
A-CHIP I/F
CPU COMMAND STATUS I/F
CLOCK GENERATOR

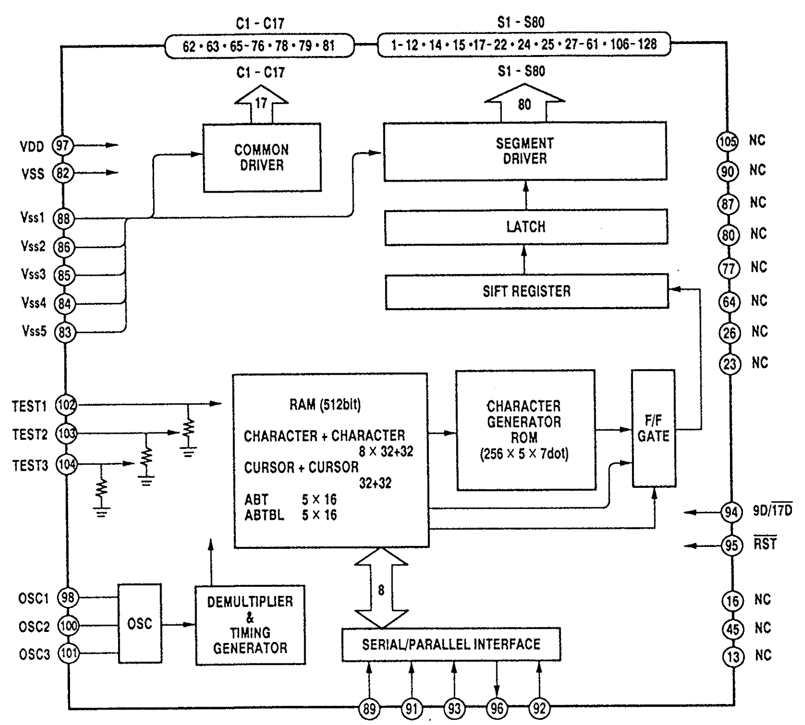
IC306 CXD2525R



CLV CONTROL
ADIP DECODER
PEAK DETECT
DIGITAL IN/OUT
DIGITAL IN PLL
ECC ENCODER/DECODER
EFM DEMODULATOR
REGISTER
TIMING GENERATOR
RAM
DECODE CLOCK GENERATOR
CLOCK GENERATOR
DETECTER PLL
SUB Q READER/GENERATOR
EFM MODULATOR
ENCODE CLOCK GENERATOR
ENCODER PLL
SENS CONTROL
34MHz PLL
CPU COMMAND I/F
SUB Q PROCESSOR
AUDIO CONTROL
SYNC DET./INS
TIMING GENERATOR

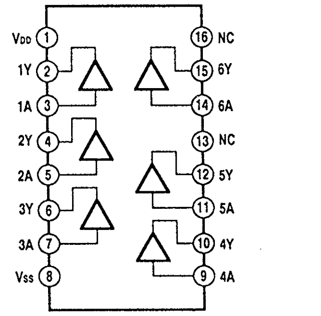
– DISPLAY SECTION –

IC801 MSM6665C-02GS-K



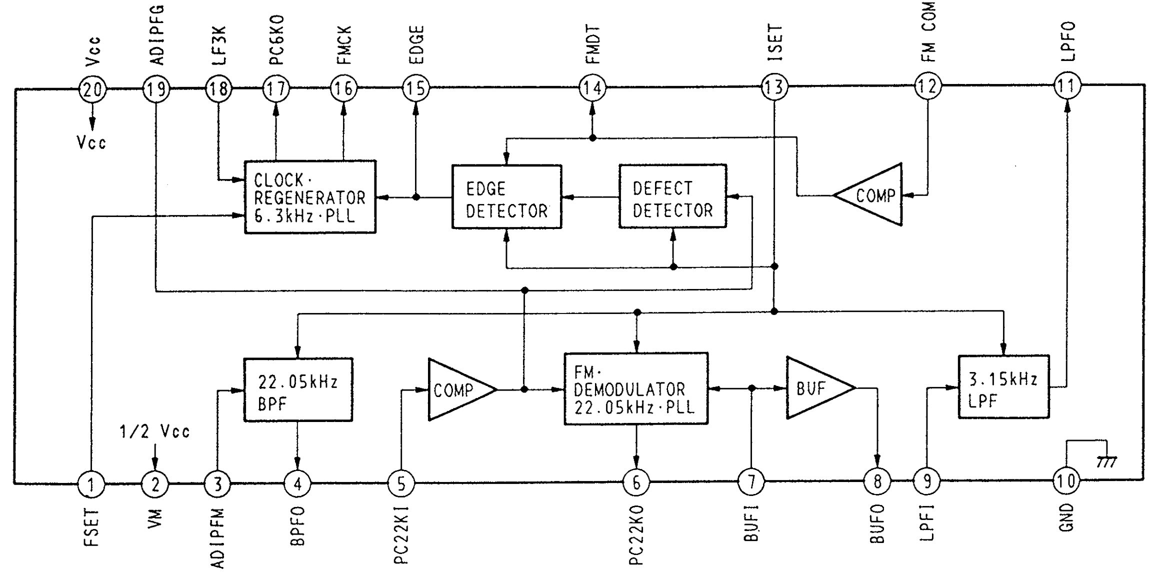
COMMON DRIVER
SEGMENT DRIVER
LATCH
SIFT REGISTER
RAM (512bit)
CHARACTER GENERATOR ROM (256×5×7dot)
F/F GATE
OSC
DEMULTIPLIER & TIMING GENERATOR
SERIAL/PARALLEL INTERFACE

IC803 TC4050BF

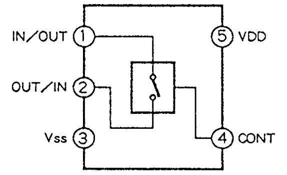


– ROTARY SECTION –

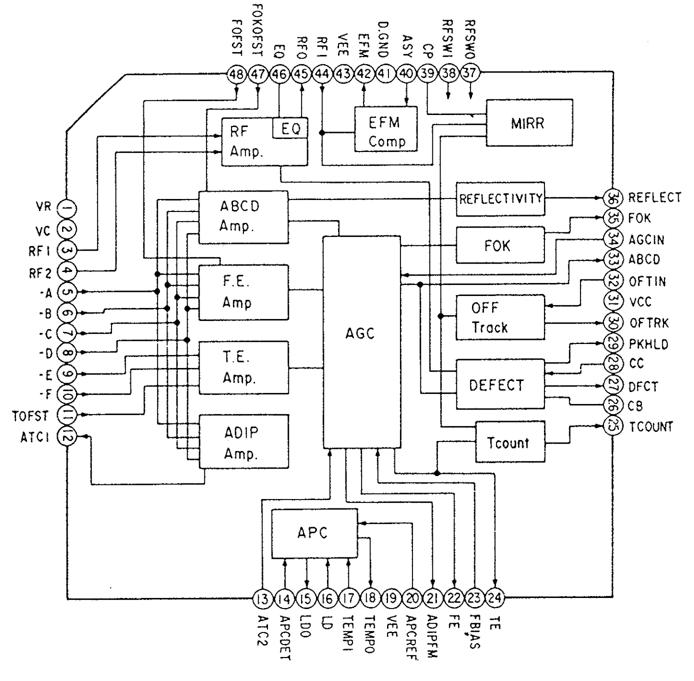
IC501 CXA1380N


Vcc
ADIPFG
LF3K
PCGKO
FMCK
EDGE
FMDT
ISET
FM COMP
LPFO
CLOCK·REGENERATOR 6.3kHz·PLL
EDGE DETECTOR
DEFECT DETECTOR
COMP
22.05kHz BPF
COMP
FM·DEMODULATOR 22.05kHz·PLL
BUF
3.15kHz LPF
1/2 Vcc
FSET
VM
ADIPFM
BPFO
PC22KI
PC22KO
BUFI
BUFO
LPFI
GND

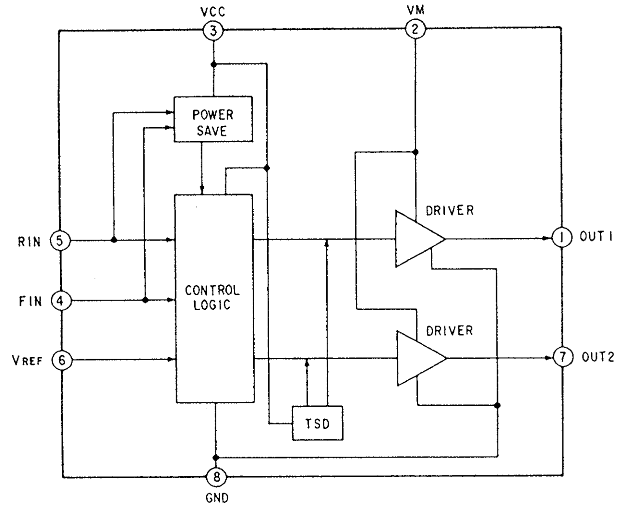
IC502, 503, 505 TC4S66F


IN/OUT
OUT/IN
Vss
VDD
CONT

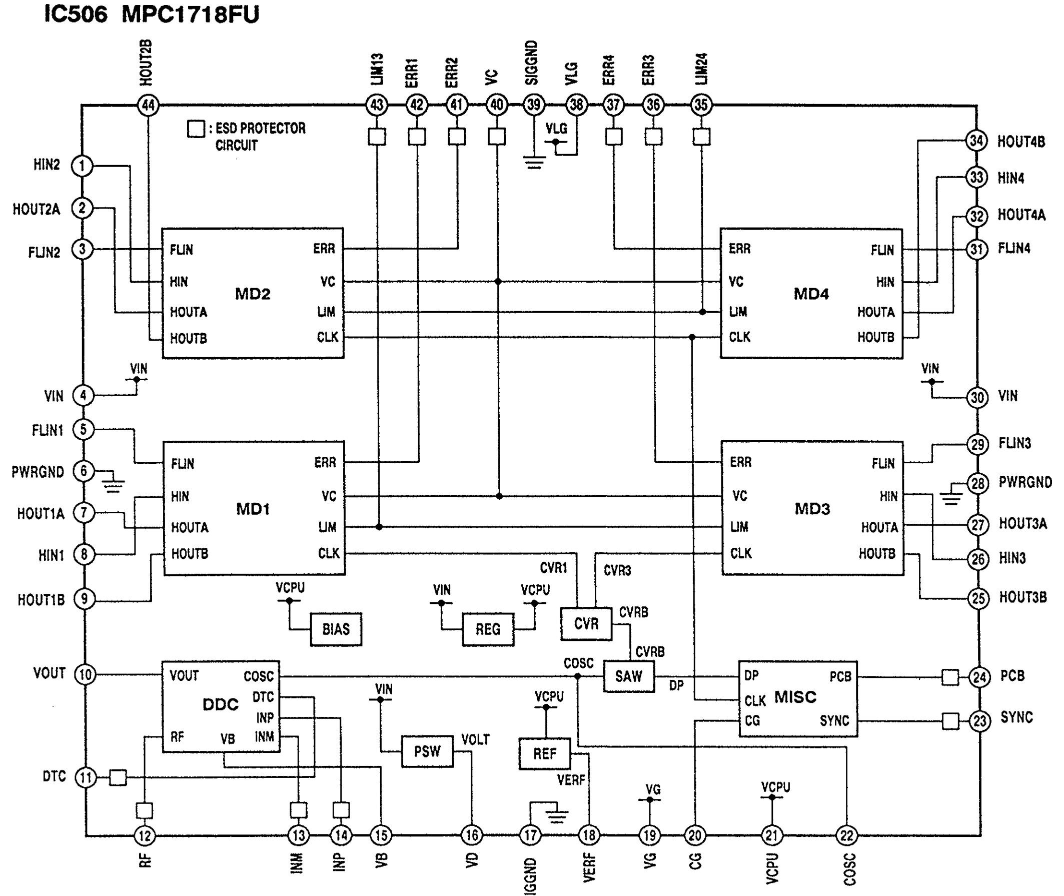
IC504 CXA1381R


RF Amp.
EQ
EFM Comp
MIRR
ABCD Amp.
REFLECTIVITY
FOK
F.E. Amp
AGC
OFF Track
T.E. Amp.
DEFECT
ADIP Amp.
Tcount
APC
REFLECT
FOK
AGCIN
ABCD
OFTIN
OFTRK
PKHLD
CC
DFCT
CB
TCOUNT
TOPST
ATCI

IC508 BA6287F

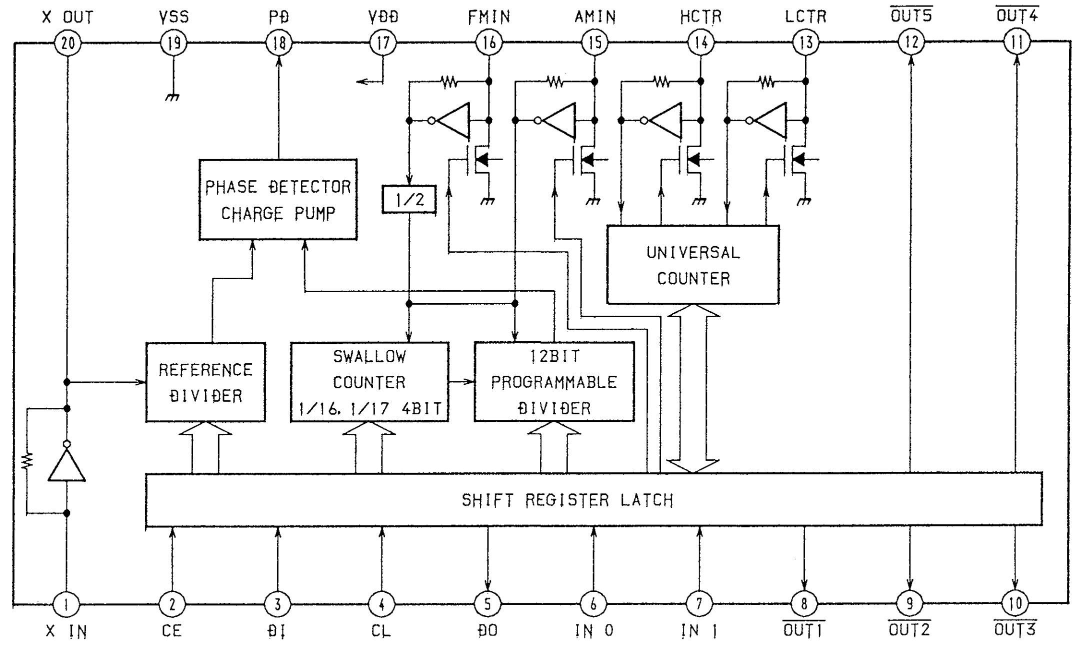

VCC
VM
POWER SAVE
CONTROL LOGIC
DRIVER
DRIVER
TSD
RIN
FIN
VREF
OUT1
OUT2
GND

IC506 MPC1718FU

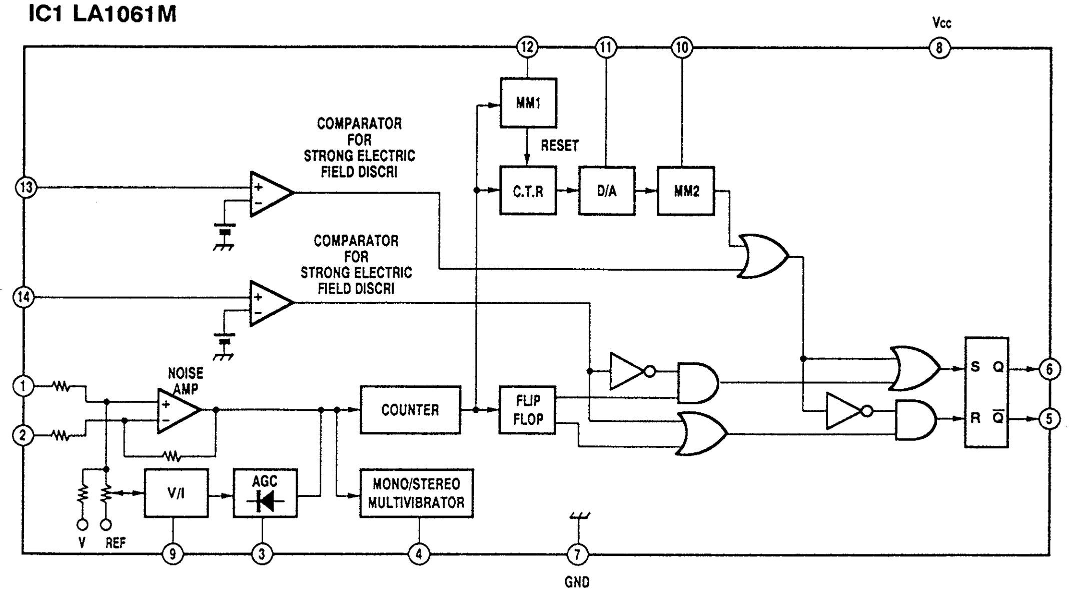

ESD PROTECTOR CIRCUIT
HIN2
HOUT2A
FLIN2
FLIN
HIN
HOUTA
HOUTB
ERR
VC
LIM
CLK
MD2
MD4
MD1
MD3
VIN
FLIN1
PWRGND
HOUT1A
HIN1
HOUT1B
VOUT
DTC
BIAS
REG
CVR
SAW
DDC
MISC
PSW
REF
HOUT4B
HIN4
HOUT4A
FLIN4
FLIN3
HIN3
HOUT3A
HOUT3B
PCB
SYNC
RF
INM
INP
VB
VD
SIGGND
VERF
VG
CG
VCPU
COSC

– HIDEAWAY SECTION –

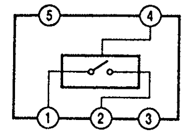
IC2 LC7216M


X OUT
VSS
PD
VDD
FMIN
AMIN
HCTR
LCTR
OUT5
OUT4
PHASE DETECTOR CHARGE PUMP
1/2
UNIVERSAL COUNTER
REFERENCE DIVIDER
SWALLOW COUNTER 1/16, 1/17 4BIT
12BIT PROGRAMMABLE DIVIDER
SHIFT REGISTER LATCH
X IN
CE
DI
CL
DO
IN 0
IN 1
OUT1
OUT2
OUT3

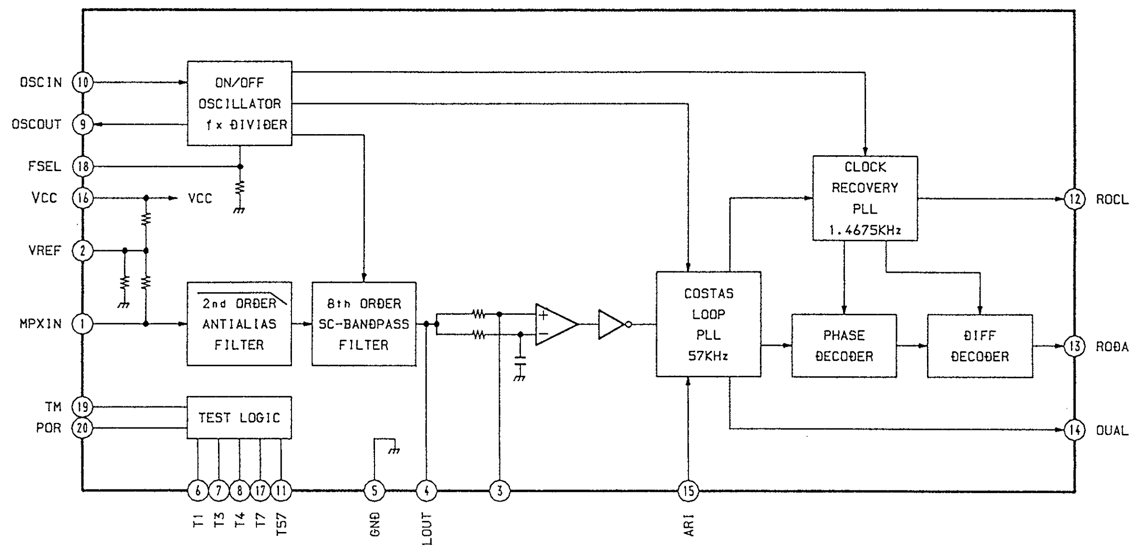
IC1 LA1061M


Vcc
COMPARATOR FOR STRONG ELECTRIC FIELD DISCRI
MM1
RESET
C.T.R
D/A
MM2
NOISE AMP
COUNTER
FLIP FLOP
V/I
AGC
MONOSTEREO MULTIVIBRATOR
S
R
Q
V REF
GND

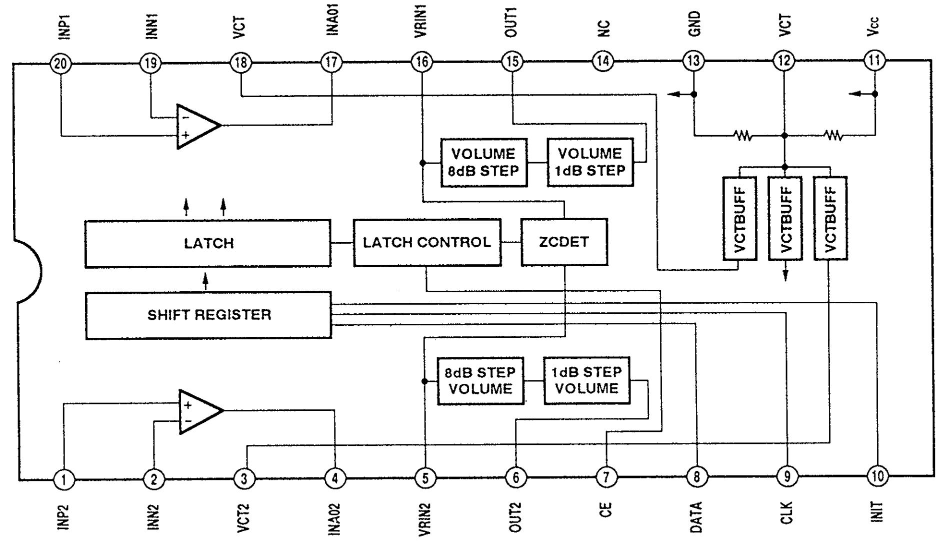
IC5, 6 TC7S66F



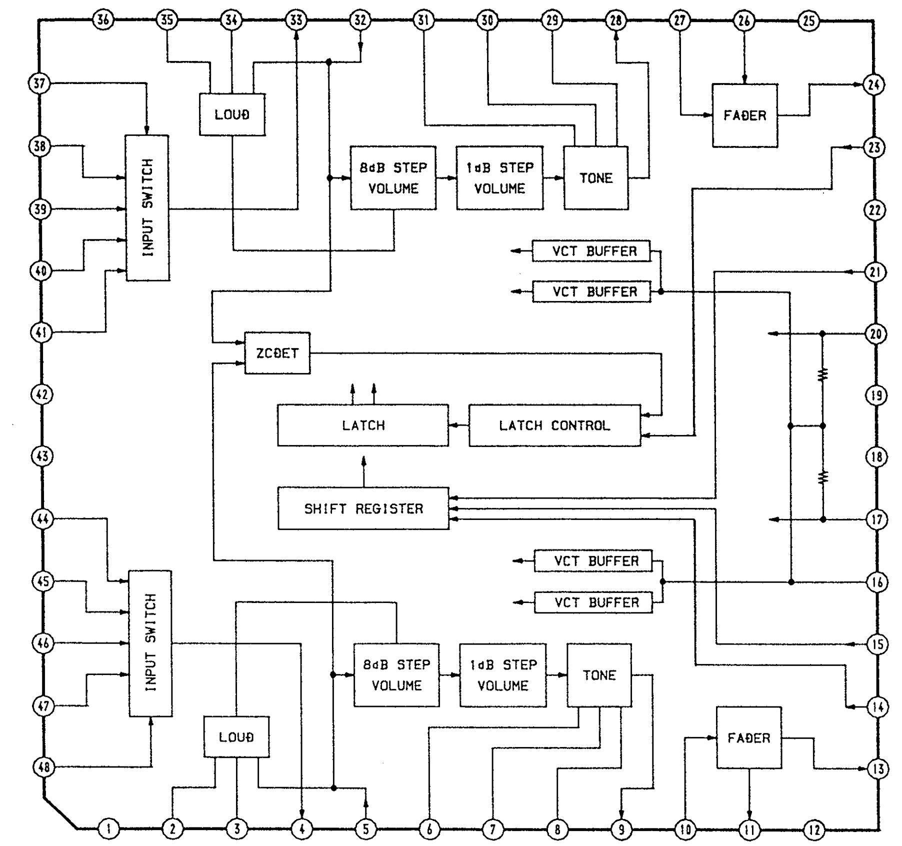
IC4 TDA7330BD-013TR


OSCIN
OSCOUT
FSEL
VCC
VREF
MPXIN
TM
POR
ON/OFF OSCILLATOR 1x DIVIDER
CLOCK RECOVERY PLL 1.4475kHz
2nd ORDER ANTIALIAS FILTER
8th ORDER SC-BANDPASS FILTER
COSTAS LOOP PLL 57kHz
PHASE DECODER
DIFF DECODER
TEST LOGIC
RDCL
RDDA
QUAL
GND
FILOUT
ARI

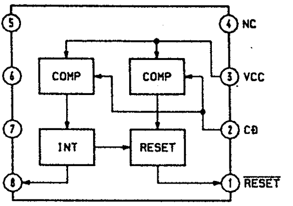
IC302 CXA1846M


INP1
INN1
VCT
INA01
VRIN1
OUT1
NC
GND
VCT
Vcc
VOLUME 8dB STEP
VOLUME 1dB STEP
VCTBUFF
LATCH
LATCH CONTROL
ZCDET
SHIFT REGISTER
8dB STEP VOLUME
1dB STEP VOLUME
INP2
INN2
VCT2
INA02
VRIN2
OUT2
CE
DATA
CLK
INIT

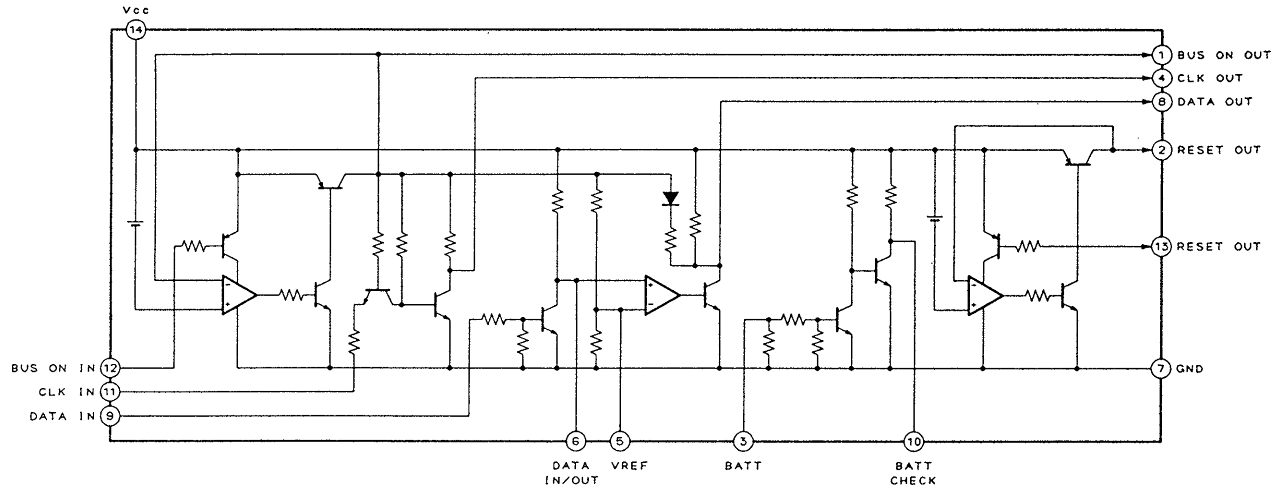
IC301 CXA1646Q


LOUD
8dB STEP VOLUME
1dB STEP VOLUME
TONE
FADER
VCT BUFFER
INPUT SWITCH
ZCDET
LATCH
LATCH CONTROL
SHIFT REGISTER

IC702 M62007FP


NC
Vcc
COMP
COMP
INT
RESET
GND
CD
INT
NC

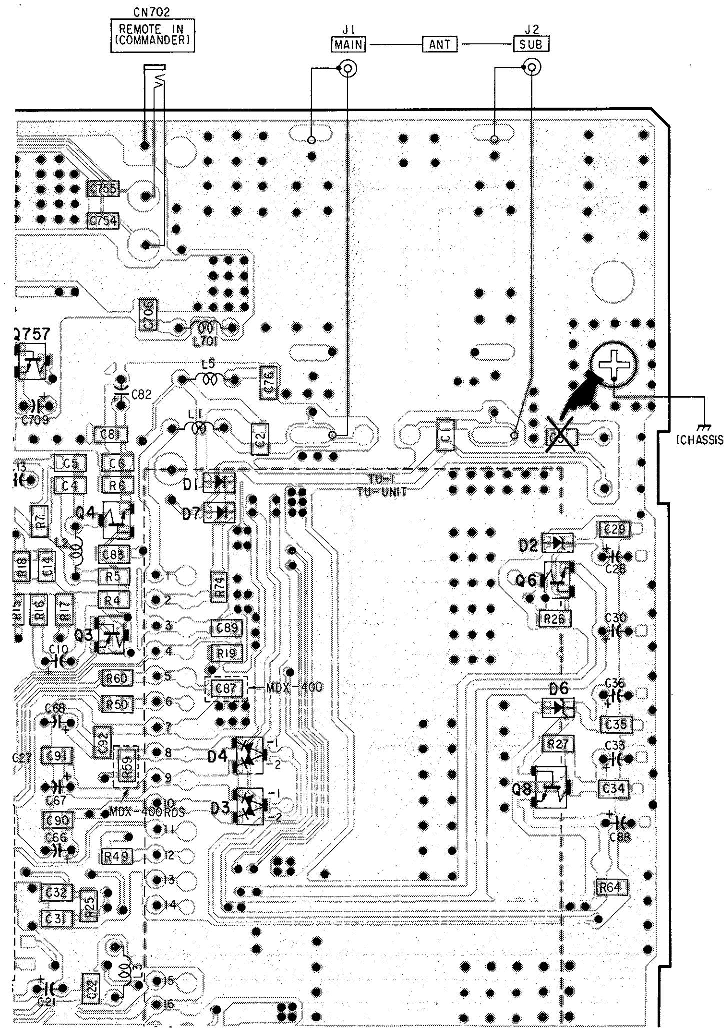
IC504 MM1175XF


Vcc
BUS ON OUT
CLK OUT
DATA OUT
RESET OUT
RESET OUT
GND
BUS ON IN
CLK IN
DATA IN
DATA IN/OUT
VREF
BATT
BATT CHECK

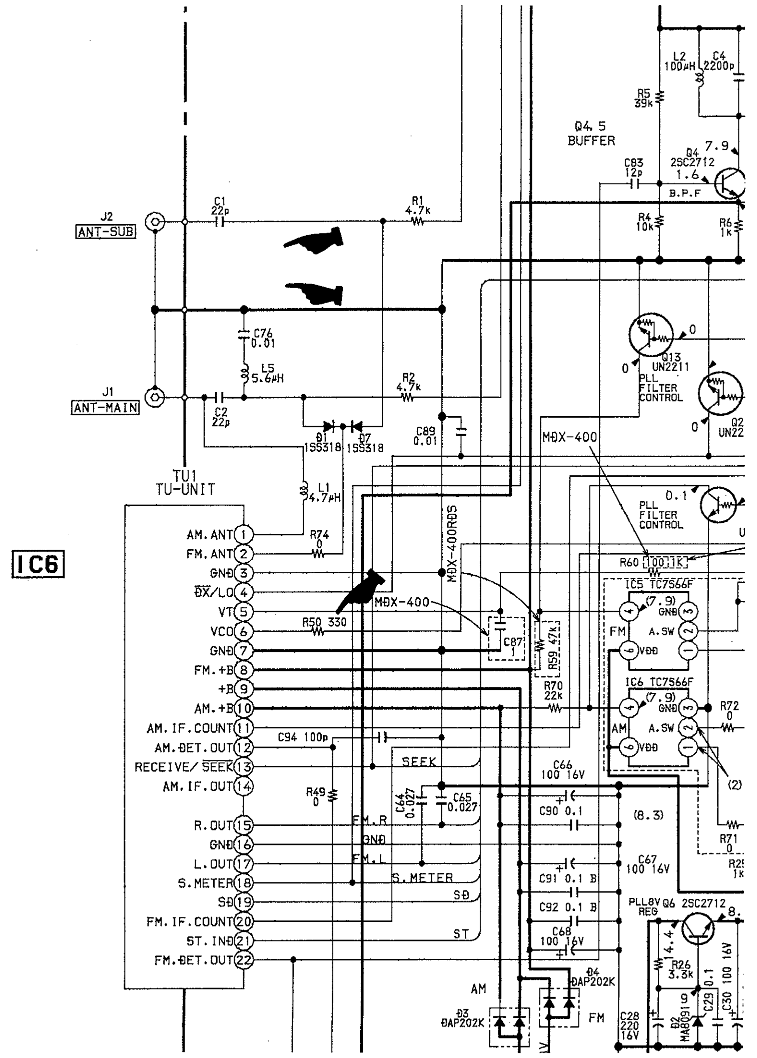
CORRECTION

☛ : Added or deleted portion

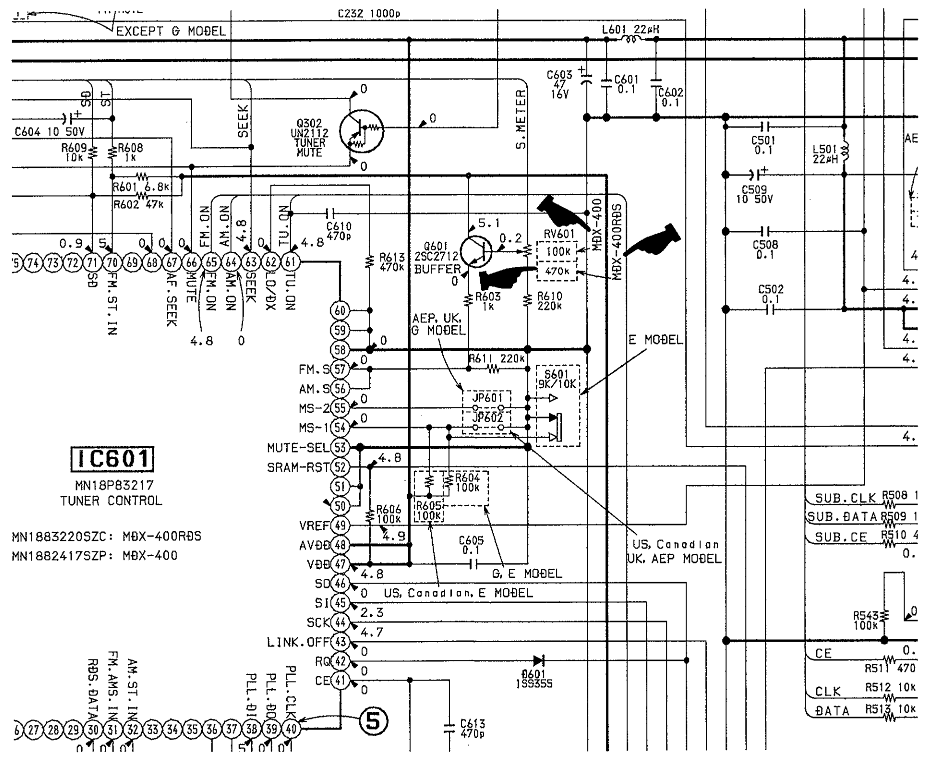
- **PRINTED WIRING BOARDS – HIDEAWAY SECTION –**
(Service Manual See page 26 – 28)
(Location B – G, 19 – 23)


CN702
REMOTE IN (COMMANDER)
J1
MAIN
ANT
J2
SUB
(CHASSIS)
TU1
TU-UNIT
MBX-400
D2
D6
Q6
Q8
D4
D3
Q4
Q3
D7

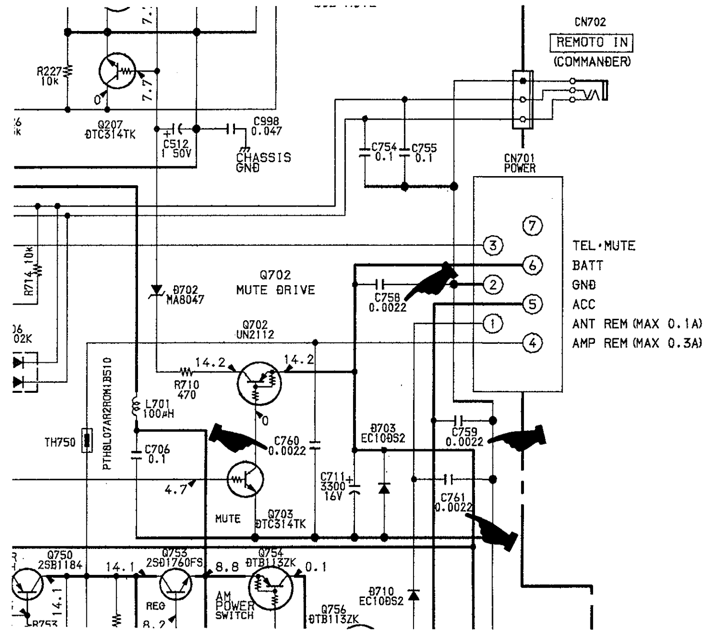
- **SCHEMATIC DIAGRAM – HIDEAWAY SECTION –**
(Service Manual See page 29 – 32)
(Location H – N, 1 – 5)


IC6
J2
ANT-SUB
J1
ANT-MAIN
TU1
TU-UNIT
Q4, 5
BUFFER
PLL FILTER CONTROL
MBX-400
SEEK
S.METER
ST

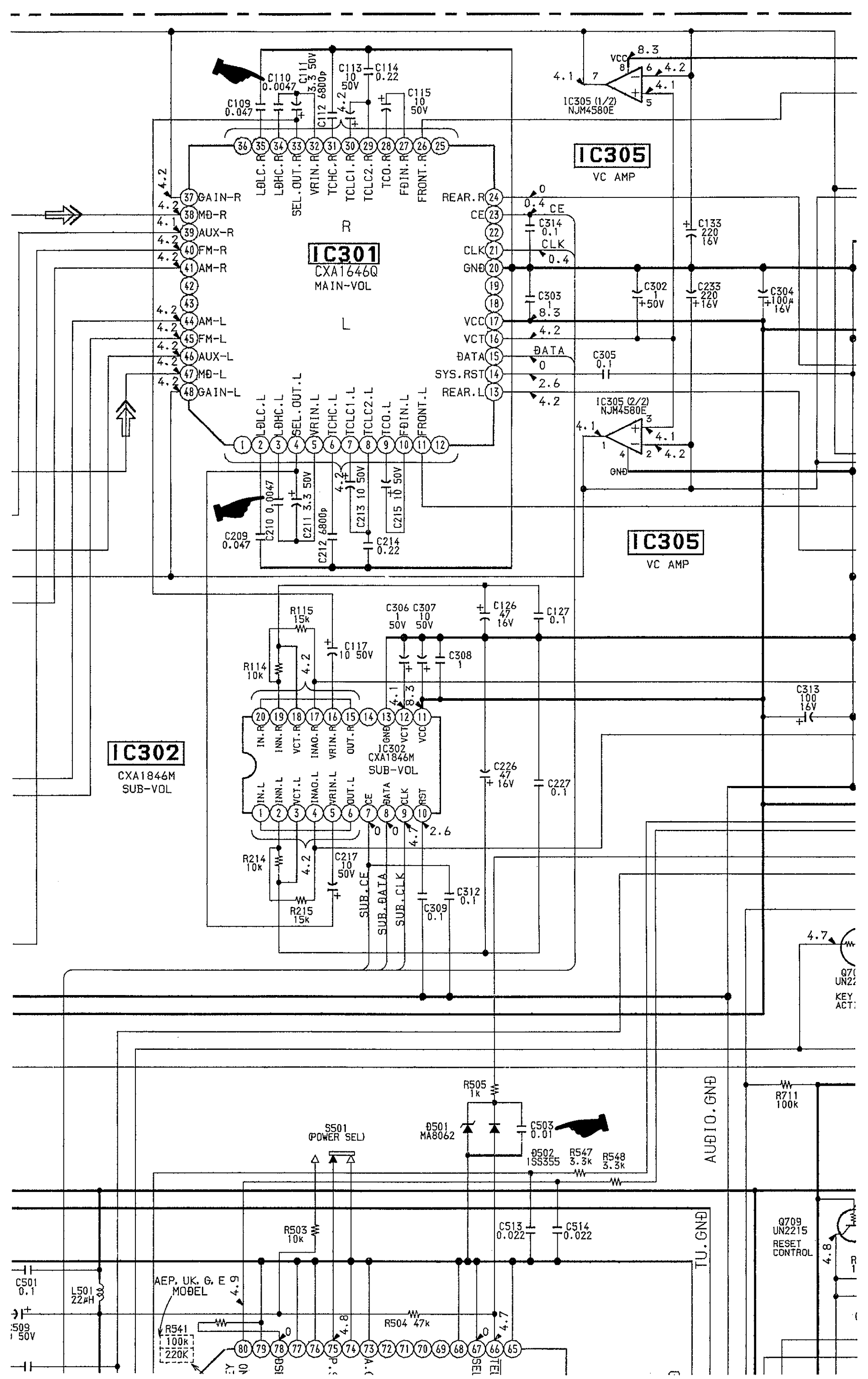
(Location I – N, 11 – 16)


EXCEPT G MODEL
IC601
MN18P83217
TUNER CONTROL
MN18823225ZC: MBX-400R65
MN18824175ZP: MBX-400
AEP, UK, G MODEL
G, E MODEL
US, Canadian, E MODEL
US, Canadian
UK, AEP MODEL
E MODEL
SUB.CLK
SUB.DATA
SUB.CE
CE
CLK
DATA

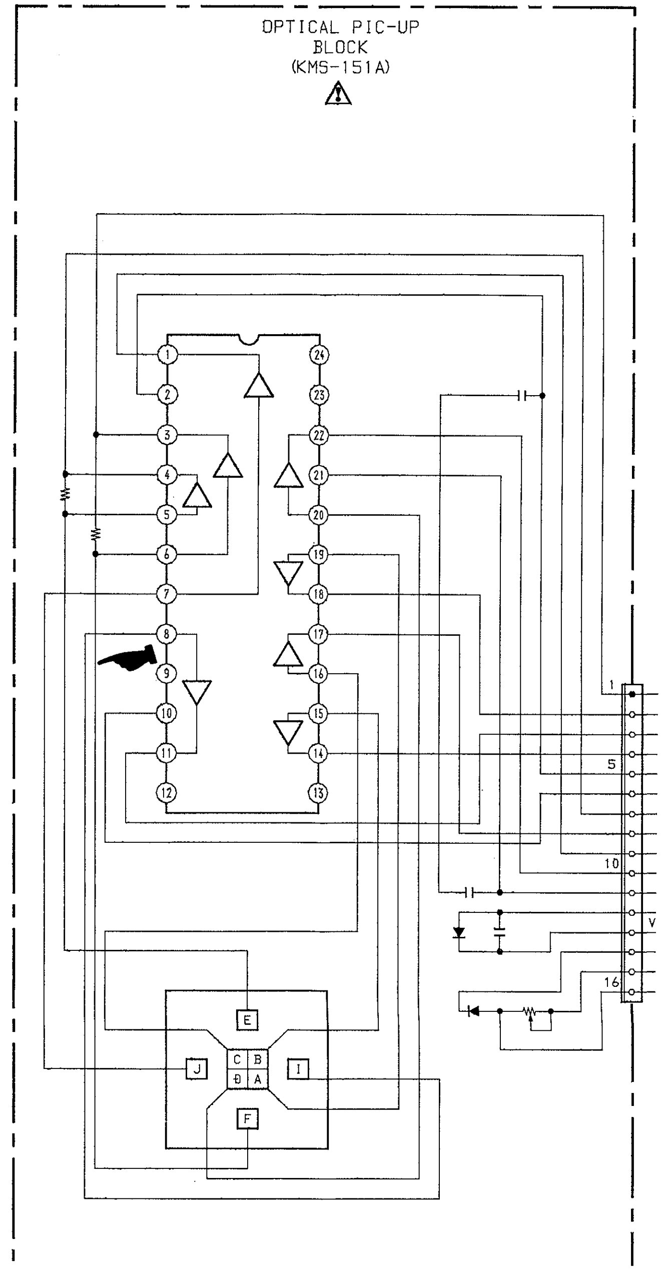
(Location E – I, 23 – 27)


CN702
REMOTE IN
(COMMANDER)
CN701
POWER
TEL-MUTE
BATT
GND
ACC
ANT REM (MAX 0.1A)
AMP REM (MAX 0.3A)
Q702
MUTE DRIVE
CHASSIS GND

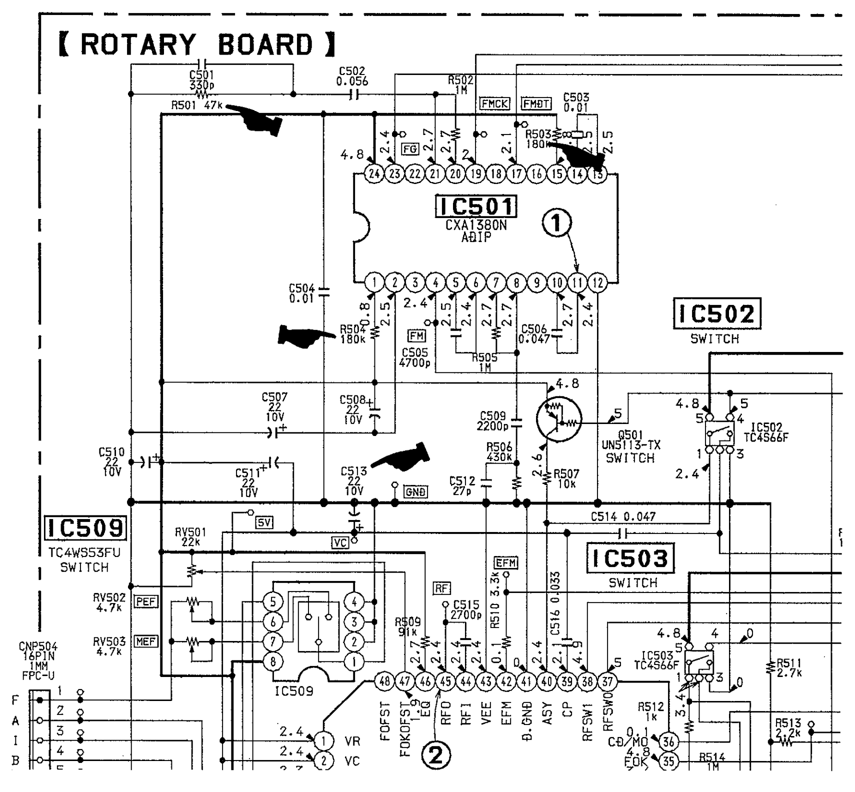
(Location A – J, 15 – 21)


IC301
CXA1646Q
MAIN-VOL
IC302
CXA1846M
SUB-VOL
IC305
VC AMP
AEP, UK, G, E MODEL
AUDIO GND
TU GND

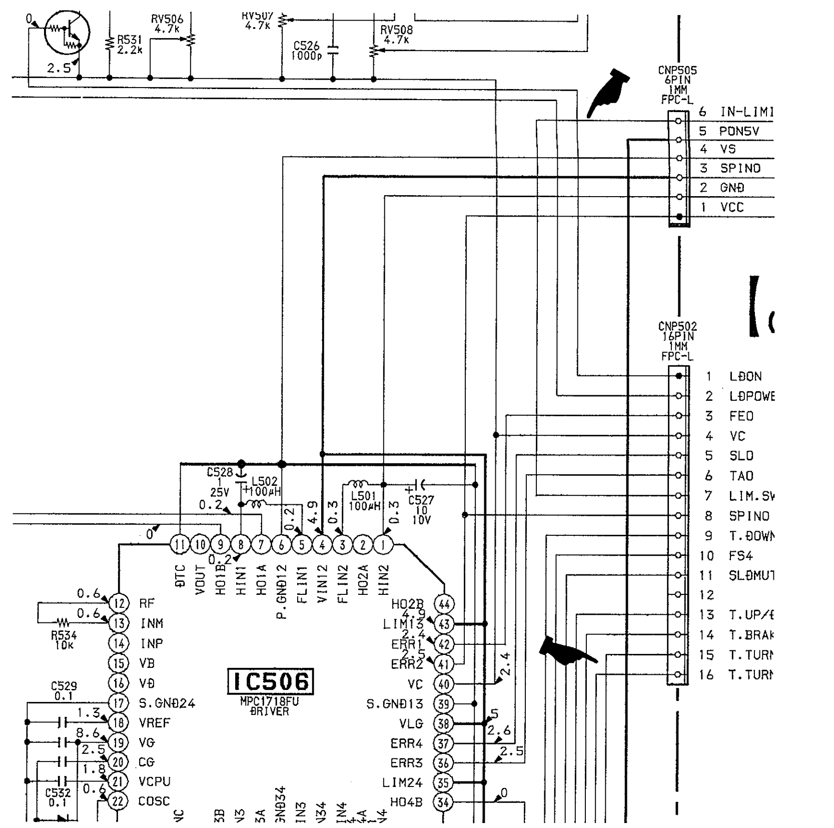
- **SCHEMATIC DIAGRAM – ROTARY SECTION –**
(Service Manual See page 34 – 36)
(Location A – H, 1 – 5)


OPTICAL PIC-UP
BLOCK
(KMS-151A)
⚠

(Location A – E, 6 – 11)

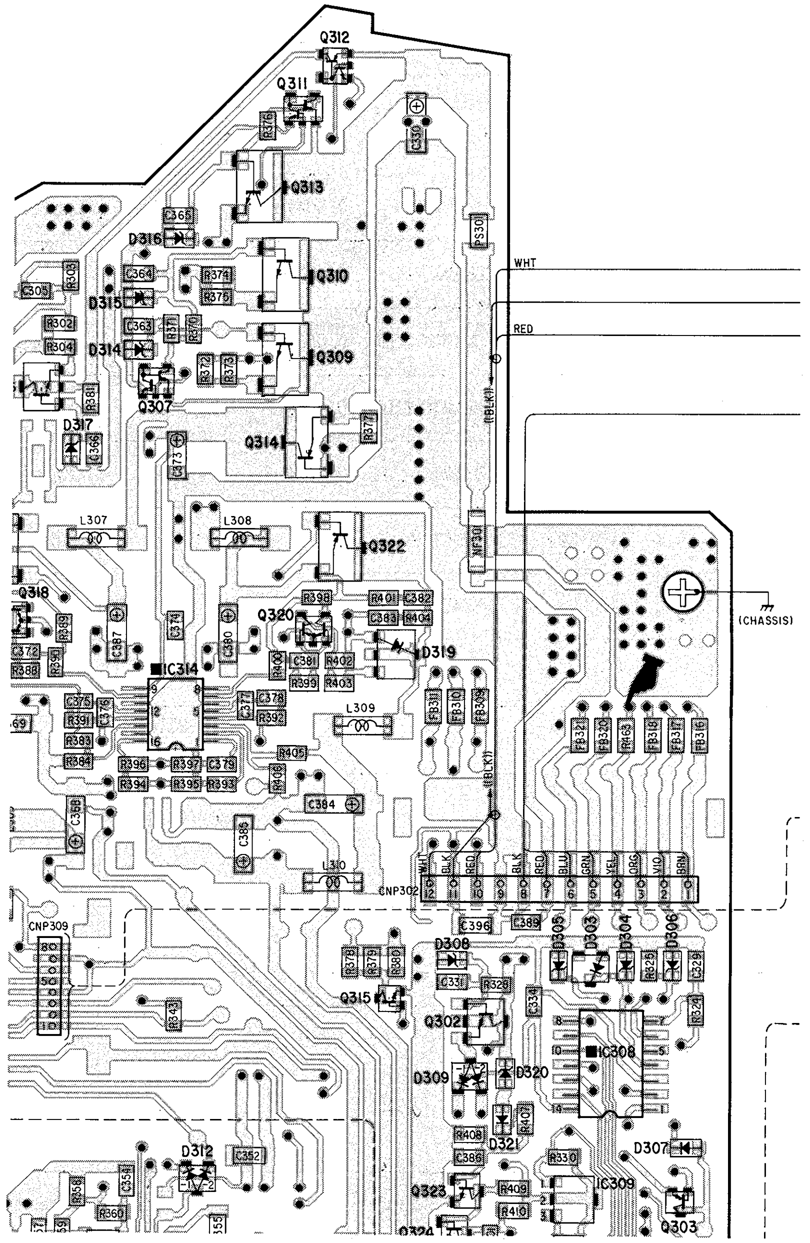

【 ROTARY BOARD 】
IC501
CXA1560N
AGTP
IC502
SWITCH
IC503
SWITCH
IC509
TC4W53FU
SWITCH
①
②

(Location I – N, 8 – 13)


IN-LIMIT
PONSV
VS
SPINO
GND
VCC
LDON
LDPOWER
FEO
VC
SLO
TAO
LIM.SW
SPINO
T.DOWN
FS4
SLDMUTE
T.UP/E
T.BRAKE
T.TURN
T.TURN
IC506
M56718FP
DRIVER

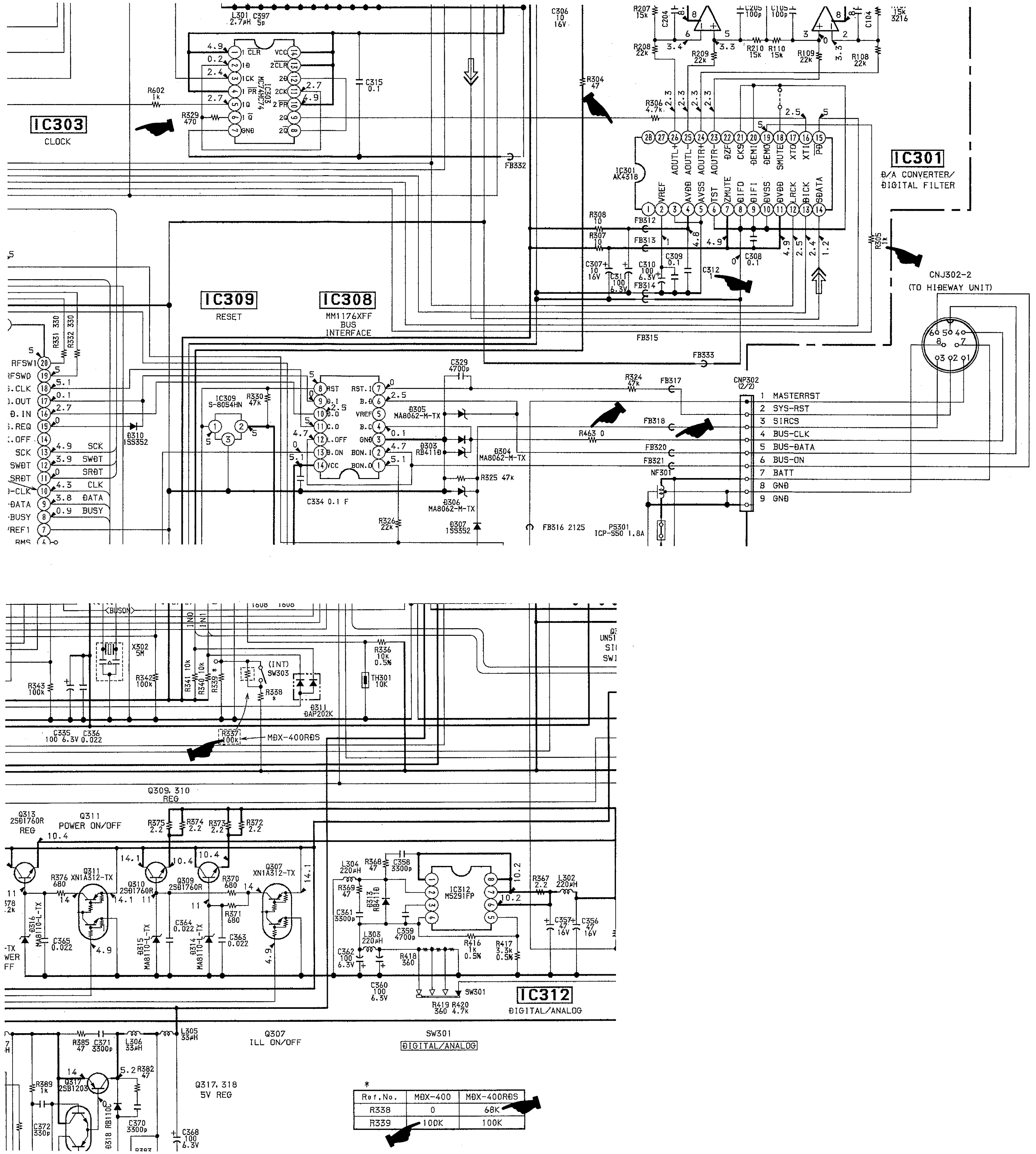
☛ : Added or deleted portion

- **PRINTED WIRING BOARDS – MAIN SECTION –**
  (Service Manual See page 42 – 46)
  (Location A – H, 21 – 25)



Q312
Q311
Q313
Q310
Q309
Q314
Q307
Q322
Q320
Q318
IC314
D319
Q315
Q302
IC308
Q309
D320
D307
D312
IC309
Q323
Q303
CNP302
CNP309
L307
L308
L309
L310
WHT
RED
(CHASSIS)

- **SCHEMATIC DIAGRAM – MAIN SECTION –**
  (Service Manual See page 47 – 50)
  (Location F – K, 16 – 27)

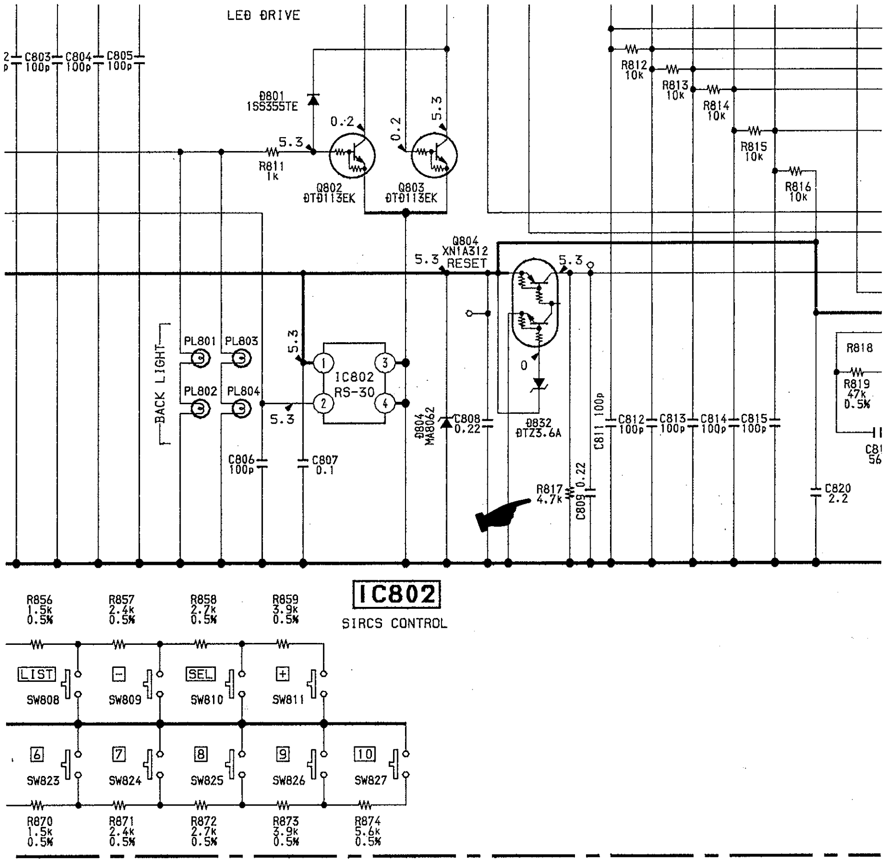


IC303
CLOCK
IC301
D/A CONVERTER/
DIGITAL FILTER
IC301 AK4318
IC309
RESET
IC308
MM1176XFF
BUS
INTERFACE
CNJ302-2
(TO HIDEWAY UNIT)
CNP302 (2/2)
1 MASTERRST
2 SYS-RST
3 SIRCS
4 BUS-CLK
5 BUS-DATA
6 BUS-ON
7 BATT
8 GND
9 GND
PS301 ICP-S50 1.8A
MDX-400RDS
Q309, 310
REG
Q313
2SB1760R
REG
Q311
POWER ON/OFF
IC312
DIGITAL/ANALOG
SW301
DIGITAL/ANALOG
Q307
ILL ON/OFF
Q317, 318
5V REG

Ref.No.	MDX-400	MDX-400RDS
R338	0	68K
R339	100K	100K

• SCHEMATIC DIAGRAM – DISPLAY SECTION –

(Service Manual See page 55 – 57)
(Location G – L, 8 – 13)


LED DRIVE
C803 100p
C804 100p
C805 100p
D801 1SS355TE
R811 1k
Q802 DTD113EK
Q803 DTD113EK
R812 10k
R813 10k
R814 10k
R815 10k
R816 10k
Q804 XN1A312 RESET
BACK LIGHT
PL801
PL802
PL803
PL804
IC802 RS-30
C806 100p
C807 0.1
D804 MA8062
C808 0.22
D832 DTZ3.6A
C811 100p
C812 100p
C813 100p
C814 100p
C815 100p
R817 4.7k
C809 0.22
C820 2.2
R818
R819 47k 0.5%
5.3
0.2
0
IC802
SIRCS CONTROL
R856 1.5k 0.5%
R857 2.4k 0.5%
R858 2.7k 0.5%
R859 3.9k 0.5%
LIST SW808
− SW809
SEL SW810
+ SW811
6 SW823
7 SW824
8 SW825
9 SW826
10 SW827
R870 1.5k 0.5%
R871 2.4k 0.5%
R872 2.7k 0.5%
R873 3.9k 0.5%
R874 5.6k 0.5%

- **ELECTRICAL PARTS LIST** (Service Manual See page 66 – 81)

Former Parts → New Parts

Ref. No.	Part No.	Description	Part No.	Description	Remark
C3 (Page 68)	1-164-232-11	CERAMIC CHIP 0.01uF 50V	———		Deleted
C110 (Page 69)	1-136-161-00	FILM 0.047uF 5% 50V	1-130-479-00	MYLAR 0.0047uF 5% 50V	Changed
C210 (Page 69)	1-136-161-00	FILM 0.047uF 5% 50V	1-130-479-00	MYLAR 0.0047uF 5% 50V	Changed
C758 (Page 70)	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 50V	Changed
C759 (Page 70)	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 50V	Changed
C760 (Page 70)	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 50V	Changed
C761 (Page 70)	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 50V	Changed
L1 (Page 71)	———		1-410-324-11	INDUCTOR 4.7uH	Added
R50 (Page 72)	1-216-295-00	METAL CHIP 0 5% 1/10W	1-216-037-00	METAL GLAZE 330 5% 1/10W	Changed
C312 (Page 74)	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	1-164-346-11	CERAMIC CHIP 1uF 16V	Changed
RV601 (Page 74)	1-241-767-21	RES, ADJ, CARBON 100K	1-241-767-21 1-238-605-31	RES, ADJ, CARBON 100K (S-METER) (MDX-400) RES, ADJ, CARBON 470K (S-METER) (MDX-400RDS)	Changed
D330 (Page 76)	8-719-422-64 8-719-901-33	DIODE MA8062-M DIODE 1SS133T	8-719-422-64	DIODE MA8062-M	Changed
D331 (Page 76)	8-719-422-64 8-719-901-33	DIODE MA8062-M DIODE 1SS133T	8-719-422-64	DIODE MA8062-M	Changed
FB319 (Page 76)	1-414-235-11	INDUCTOR, FERRITE BEAD	———		Deleted
R339 (Page 77)	1-216-073-00	METAL CHIP 10K 5% 1/10W (MDX-400)	1-216-097-00	METAL GLAZE 100K 5% 1/10W	Changed
R339 (Page 77)	1-216-097-00	METAL CHIP 100K 5% 1/10W (MDX-400RDS)			Changed
R463 (Page 78)	———		1-216-295-91	METAL GLAZE 0 5% 1/10W	Added
R501 (Page 80)	1-216-845-11	METAL CHIP 100K 5% 1/16W	1-216-841-11	METAL GLAZE 47K 5% 1/16W	Changed
R503 (Page 80)	1-220-372-11	METAL GLAZE 200K 5% 1/16W	1-216-848-11	METAL GLAZE 180K 5% 1/16W	Changed
R504 (Page 80)	1-220-372-11	METAL GLAZE 200K 5% 1/16W	1-216-848-11	METAL GLAZE 180K 5% 1/16W	Changed

English
94G0286-1
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Mobile Electronics Company

**Published by Home A&V Products Div.
Quality Engineering Dept.**

MDX-400/400RDS

SONY®
SERVICE MANUAL

US Model
Canadian Model
E Model
MDX-400

AEP Model
UK Model
MDX-400RDS

SUPPLEMENT-2

File the Supplement with the Service Manual and Supplement-1.

- **CHANGE OF BOARD**

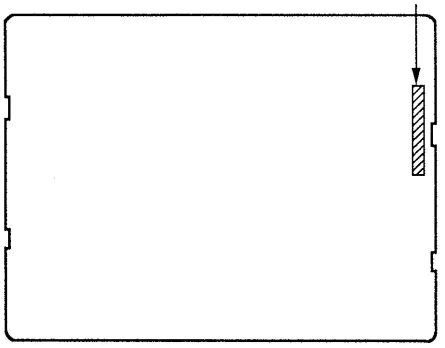
(ECN-CS401111/CS401112/CS402388)

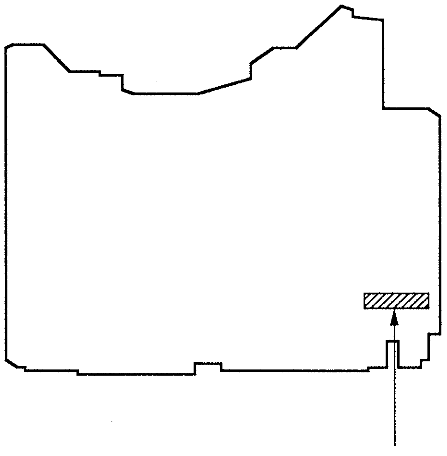
The boards of this model have been changed in the midst of production.

Board	Former Type	New Type
HIDEAWAY board	1-650-788-12	1-650-788-**13**
ROTARY board	1-650-785-12	1-650-785-**13**
MAIN board	1-650-784-13	1-650-784-**14** → 1-650-784-**15** → 1-650-784-**16**
LAMP board	1-651-110-11	1-651-110-**12** → DELETE

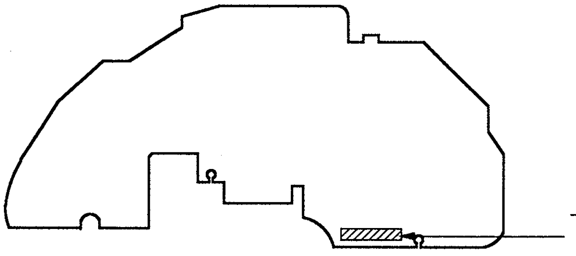
Accompanying these changes, only the SCHEMATIC DIAGRAM, the PRINTED WIRING BOARDS and the electrical parts list which have been added and changed are described in this SUPPLEMENT. Furthermore, refer to the part code numbers printed on the printed circuit boards to identify the boards.

HIDEAWAY board
1-650-788-□□





MAIN board
1-650-784-□□



ROTARY board
1-650-785-□□

English
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Quality Engineering Dept.

Sony Corporation
Mobile Electronics Company

TABLE OF CONTENTS

Title *Page*

1. DIAGRAMS

1-1. Printed Wiring Boards – ROTARY SECTION – (1-650-785-13) 3
1-2. Schematic Diagram – ROTARY SECTION – (1-650-785-13) 4
1-3. Printed Wiring Boards – HIDEAWAY SECTION – (1-650-788-13) 6
1-4. Schematic Diagram – HIDEAWAY SECTION – (1-650-788-13) 9
1-5. Schematic Diagram – MAIN SECTION – (1-650-784-14) 13
1-6. Printed Wiring Boards – MAIN SECTION – (1-650-784-14) 17
1-7. Printed Wiring Boards – MAIN SECTION – (1-650-784-15) 22
1-8. Schematic Diagram – MAIN SECTION – (1-650-784-15) 27
1-9. Schematic Diagram – MAIN SECTION – (1-650-784-16) 31
1-10. Printed Wiring Boards – MAIN SECTION – (1-650-784-16) 35

2. EXPLODED VIEWS 41

3. EXPLODED VIEWS PARTS LIST 43

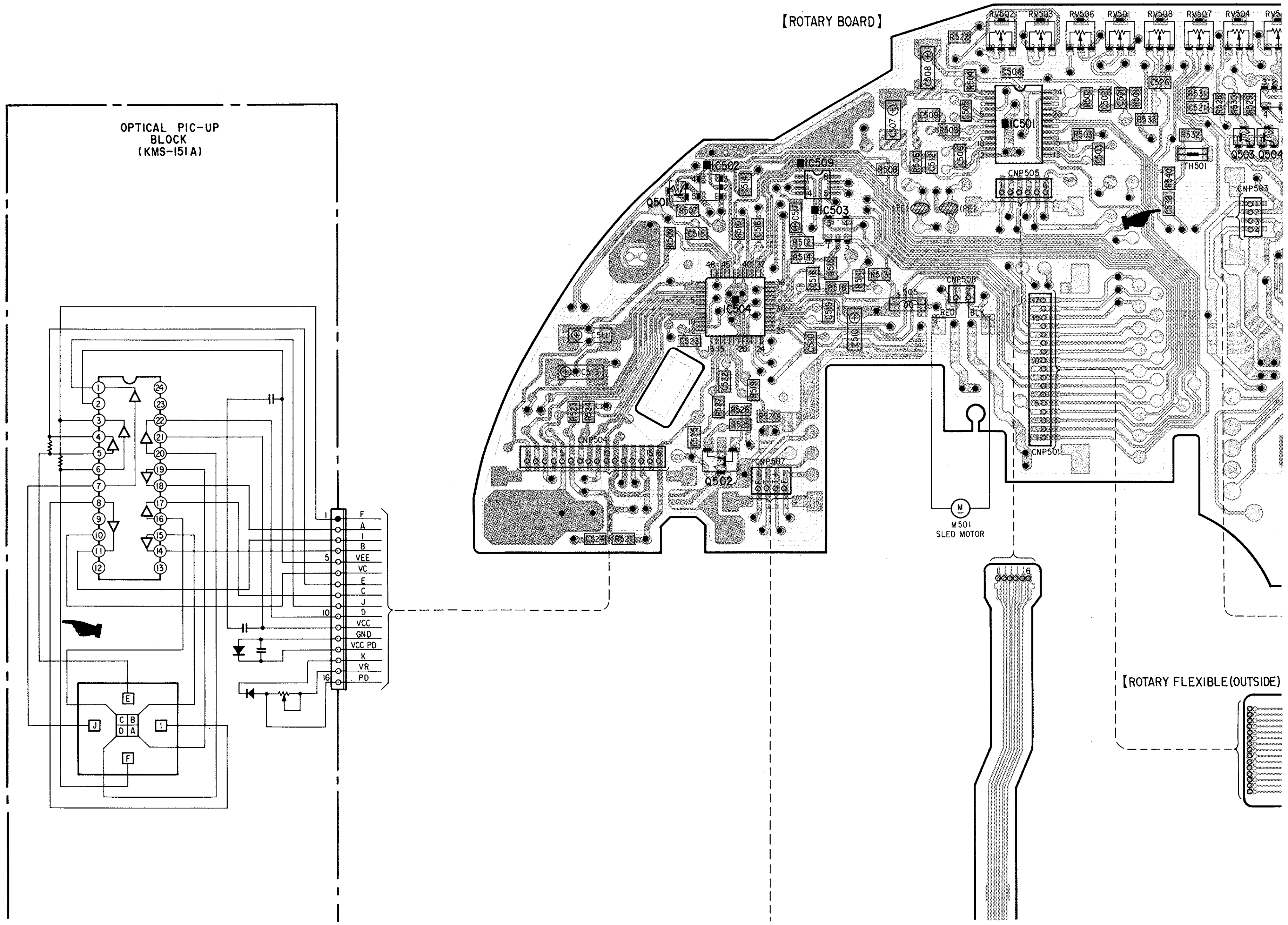
4. ELECTRICAL PARTS LIST 44

1. DIAGRAMS

☛ : Added portion

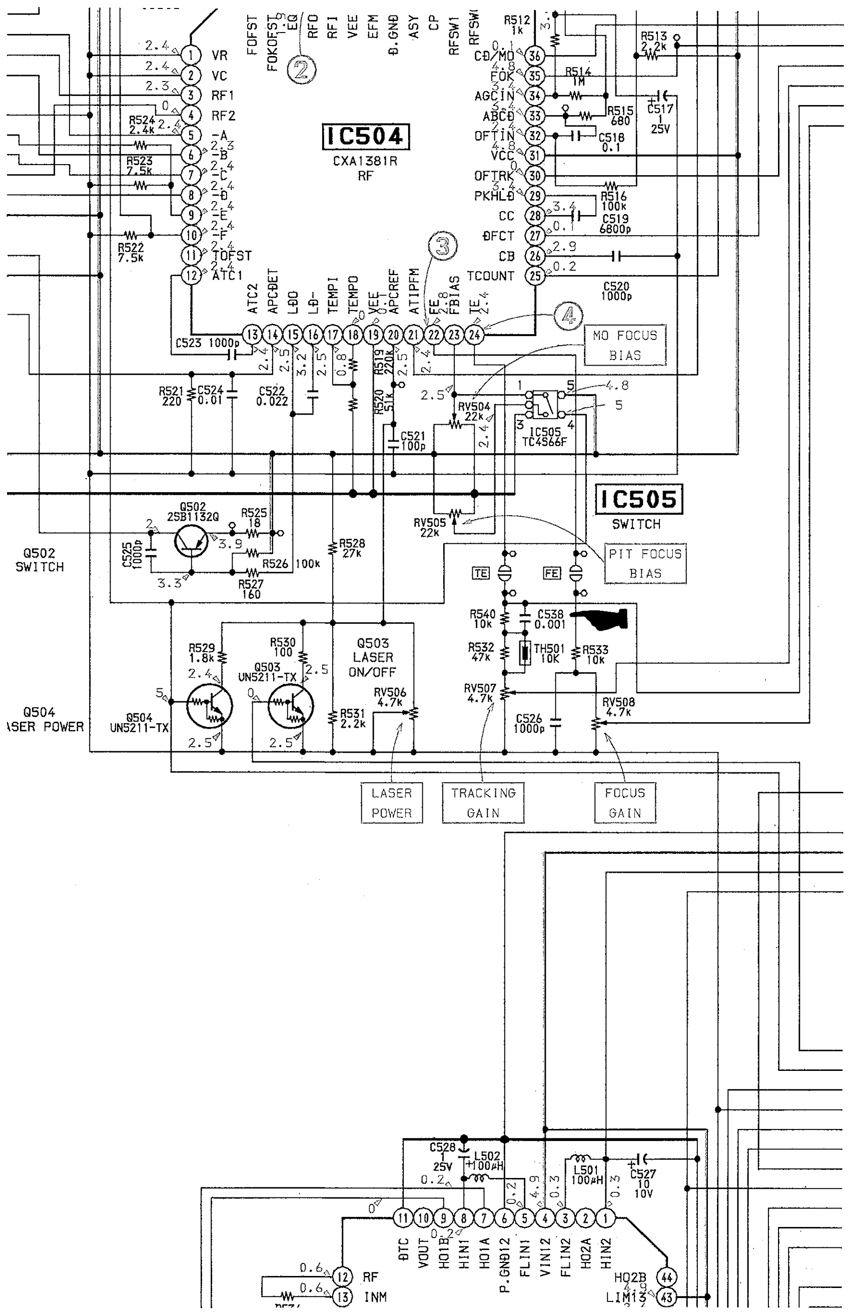
1-1. PRINTED WIRING BOARDS – ROTARY SECTION – (1-650-785-13)

(Service Manual See page 37 – 39)
(Location A – H, 1 – 11)


【ROTARY BOARD】
OPTICAL PIC-UP BLOCK (KMS-151A)
F
A
I
B
VEE
VC
E
C
J
D
VCC
GND
VCC PD
K
VR
PD
IC501
IC502
IC503
IC504
IC509
Q501
Q502
Q503
Q504
CNP501
CNP503
CNP504
CNP505
CNP507
CNP508
TH501
L505
RED
BLK
M501
SLED MOTOR
RV502
RV503
RV506
RV501
RV508
RV507
RV504
【ROTARY FLEXIBLE(OUTSIDE)

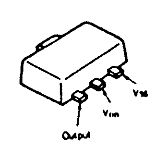
1-2. SCHEMATIC DIAGRAM – ROTARY SECTION – (1-650-785-13)

(Service Manual See page 24 – 36)
(Location E – M, 7 – 12)

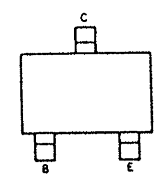

IC504
CXA1381R
RF
IC505
TC4566F
SWITCH
Q502
2SB1132Q
Q502
SWITCH
Q503
UN5211-TX
Q503
LASER
ON/OFF
Q504
UN5211-TX
Q504
LASER POWER
MO FOCUS BIAS
PIT FOCUS BIAS
LASER POWER
TRACKING GAIN
FOCUS GAIN
RV504 22k
RV505 22k
RV506 4.7k
RV507 4.7k
RV508 4.7k
TH501 10k
L501 100μH
L502 100μH
VR
VC
RF1
RF2
TDFST
ATC1
ATC2
CD/MO
FOK
AGCIN
ABCD
DFTIN
VCC
DFTRK
PKHLD
CC
DFCT
CB
TCOUNT
BTC
VOUT
HO1B
HIN1
HO1A
P.GND12
FLIN1
VIN12
FLIN2
HO2A
HIN2
HO2B
LIM13
RF
INM

• SEMICONDUCTOR LEAD LAYOUTS

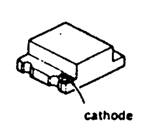
S-8054HN-CB


Output
Vin
Vss

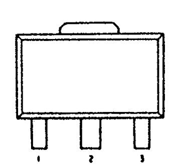
UN2216



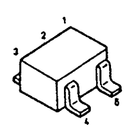
CL-155G/PG-D-TL



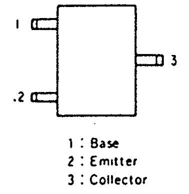
RB110C



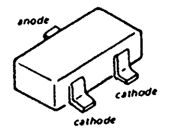
TC4S66F
TC7S66F



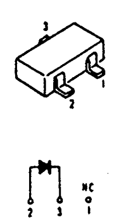
UN5211


1
.2
3
1 : Base
2 : Emitter
3 : Collector

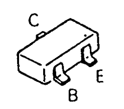
DAP202K


anode
cathode
cathode

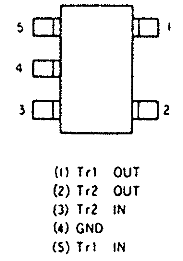
RB411D



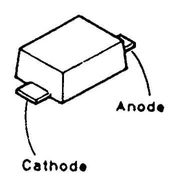
DTC114TK
DTC314TKH04
DTD113EK
UN2111
UN2112
UN2113
UN2211
UN2212
UN2213
UN5113
UN5212
2SA1162-G
2SC1623-L5L6
2SC2712-YG



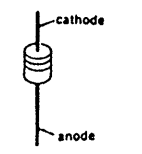
XN1A312-TX


5
4
3
1
2
(1) Tr1 OUT
(2) Tr2 OUT
(3) Tr2 IN
(4) GND
(5) Tr1 IN

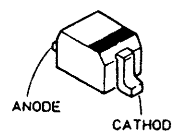
DTZ5.1B-TT11
MA8091-M
MA8110-L-TX


Anode
Cathode

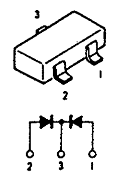
RD6.2ESB2


cathode
anode

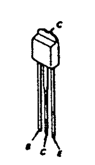
DTZ5.6B
MA8062-M
1SS133
1SS318
1SS352
1SS355


ANODE
CATHODE

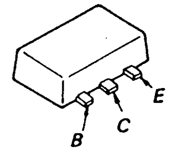
DAN202K



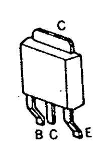
2SA1385-L



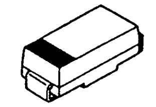
DTB113ZR
2SB1115A
2SD1622-S
2SD1664-QR
2SD1760F5-R



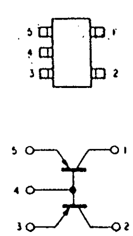
2SB1203FAS



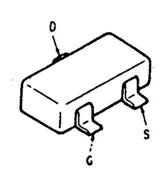
EC10DS2



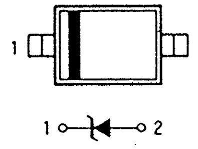
FMY1



2SK1657-T1B



MA8047-M-TX
MA8160M



• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D1	D - 20	IC301	H - 8	Q301	I - 13
D2	E - 22	IC302	I - 5	Q302	I - 13
D3	F - 20	IC303	H - 9	Q501	C - 14
D4	F - 20	IC304	H - 9	Q502	D - 13
D6	F - 22	IC305	H - 17	Q503	D - 13
D7	E - 20	IC306	I - 6	Q601	F - 16
D30	F - 18	IC307	H - 6	Q701	D - 16
D501	D - 15	IC501	E - 10	Q702	F - 13
D502	D - 9	IC504	D - 10	Q703	F - 13
D503	D - 14	IC601	F - 9	Q704	C - 15
D504	D - 13	IC702	E - 8	Q705	C - 15
D505	D - 14			Q706	D - 15
D506	D - 14			Q707	D - 15
D507	C - 13	Q2	F - 6	Q708	D - 16
D508	C - 13	Q3	E - 20	Q709	E - 8
		Q4	E - 20		
D551	C - 11	Q5	E - 19	Q750	C - 6
D552	C - 10	Q6	E - 22	Q751	D - 6
D601	F - 9			Q752	D - 6
D701	D - 6	Q7	F - 18	Q753	C - 6
D702	H - 11	Q8	F - 22	Q754	D - 5
		Q13	F - 6		
D703	C - 8	Q14	G - 1	Q755	D - 19
D704	D - 16	Q15	G - 1	Q756	D - 5
D705	D - 16			Q757	D - 19
D706	C - 15	Q16	G - 17	Q758	C - 5
D707	D - 16	Q21	H - 4	Q759	D - 6
		Q30	G - 22		
D708	C - 4	Q102	J - 14		
D709	D - 17	Q103	I - 10		
D710	C - 7				
D750	D - 18	Q104	I - 10		
D751	D - 6	Q105	J - 17		
		Q106	J - 19		
D752	D - 18	Q107	J - 21		
D753	C - 18	Q202	J - 14		
		Q203	H - 10		
IC1	E - 5	Q204	H - 10		
IC2	G - 6	Q205	J - 18		
IC4	I - 21	Q206	J - 20		
IC5	G - 5	Q207	J - 22		
IC6	G - 5				

Note:

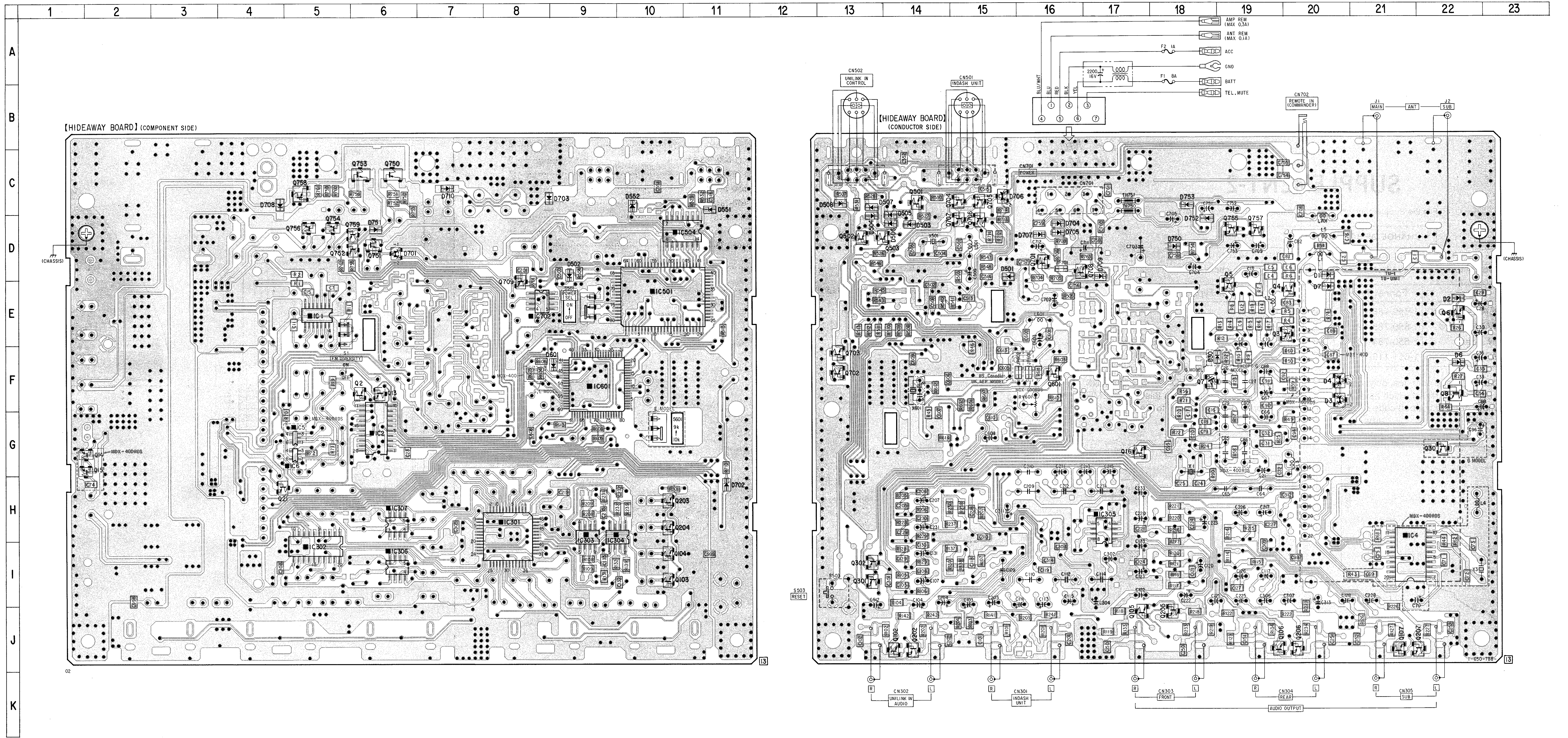
- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
  (The other layers' patterns are not indicated)

Caution :

Pattern face side : (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side : (Component side)	Parts on the parts face side seen from the parts face are indicated.

- G : German

1-3. PRINTED WIRING BOARDS – HIDEAWAY SECTION – (1-650-788-13)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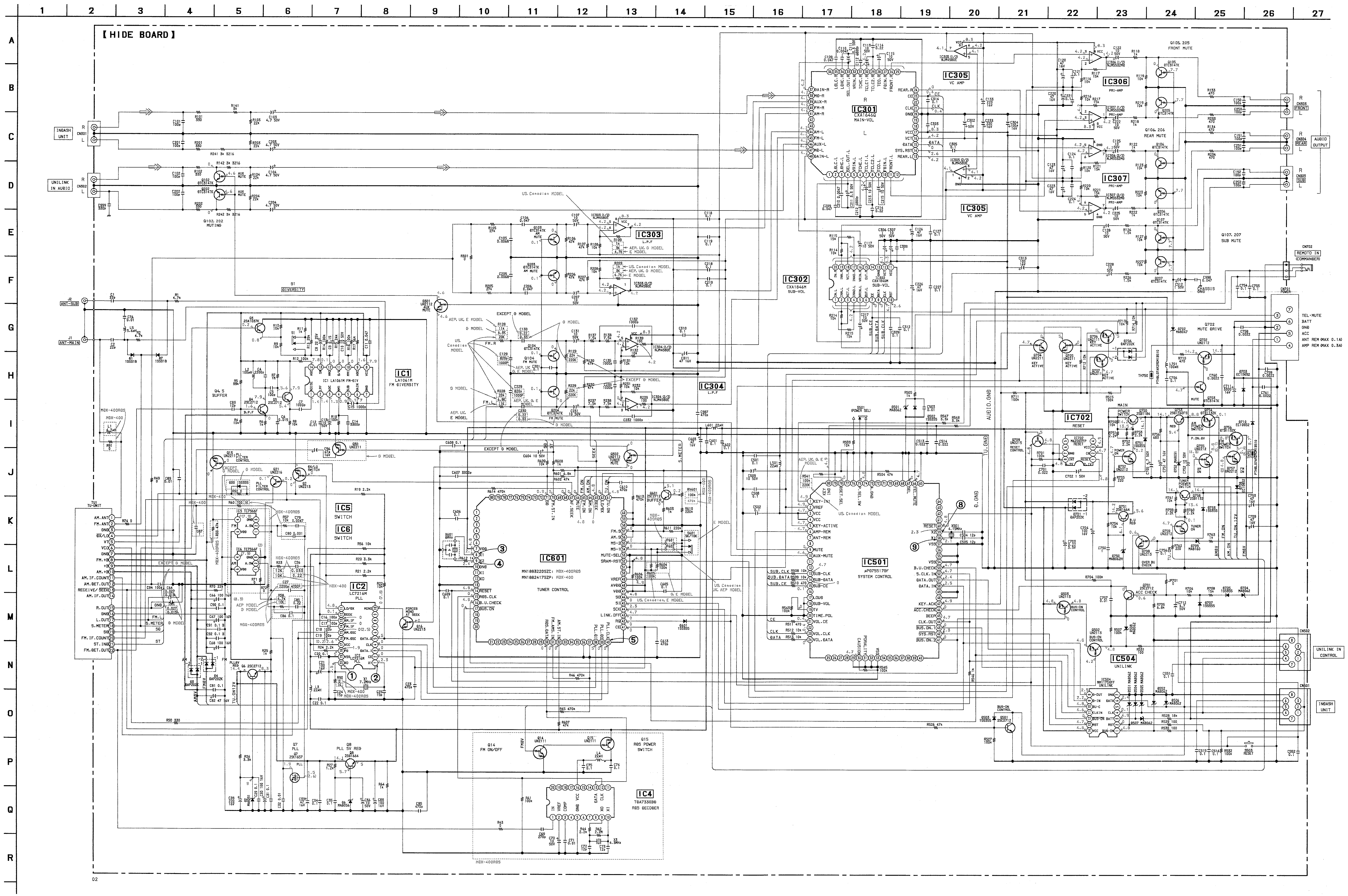
16
17
18
19
20
21
22
23
A
B
C
D
E
F
G
H
I
J
K
【HIDEAWAY BOARD】(COMPONENT SIDE)
(CHASSIS)
IC1
IC301
IC302
IC303
IC304
IC305
IC306
IC307
IC501
IC504
IC601
MDX-400RDS
CN502 UNILINK IN CONTROL
CN501 INDASH UNIT
【HIDEAWAY BOARD】(CONDUCTOR SIDE)
AMP REM (MAX 0.3A)
ANT REM (MAX 0.3A)
F2 1A
ACC
GND
F1 8A
BATT
TEL MUTE
CN702 REMOTE IN (COMMANDER)
J1 MAIN
ANT
J2 SUB
(CHASSIS)
S503 RESET
IC4
CN302 UNILINK IN AUDIO
CN301 INDASH UNIT
CN303 FRONT
CN304 REAR
CN305 SUB
AUDIO OUTPUT
R
L
13

1-4. SCHEMATIC DIAGRAM – HIDEAWAY SECTION – (1-650-788-13)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A
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C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
【HIDE BOARD】
INDASH UNIT
UNILINK IN AUDIO
ANT-SUB
ANT-MAIN
S1 DIVERSITY
Q102, 202 MUTING
TU1 TU-UNIT
IC1 LA1061M FM DIVERSITY
Q4, 5 BUFFER
IC5 SWITCH
IC6 SWITCH
IC2 LC7216M PLL
Q8 PLL 5V REG
IC4 TDA7330B RDS DECODER
Q14 FM ON/OFF
Q15 RDS POWER SWITCH
IC601 TUNER CONTROL
IC303 L.P.F
IC304 L.P.F
IC301 CXA1646Q MAIN-VOL
IC302 CXA1846M SUB-VOL
IC305 VC AMP
IC306 PRE-AMP
IC307 PRE-AMP
Q105, 205 FRONT MUTE
Q104, 204 REAR MUTE
Q107, 207 SUB MUTE
AUDIO OUTPUT
FRONT
REAR
SUB
REMOTE IN (COMMANDER)
TEL-MUTE
BATT
GND
ACC
ANT REM (MAX 0.1A)
AMP REM (MAX 0.3A)
IC702 RESET
Q702 MUTE DRIVE
IC501 µPD75517GF SYSTEM CONTROL
IC504 UNILINK
UNILINK IN CONTROL
INDASH UNIT
AUDIO.GND
TU.GND
D.GND
MDX-400RDS
02

Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▬ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply HIDE BOARD CN701 (BATT and ACC terminals).
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.

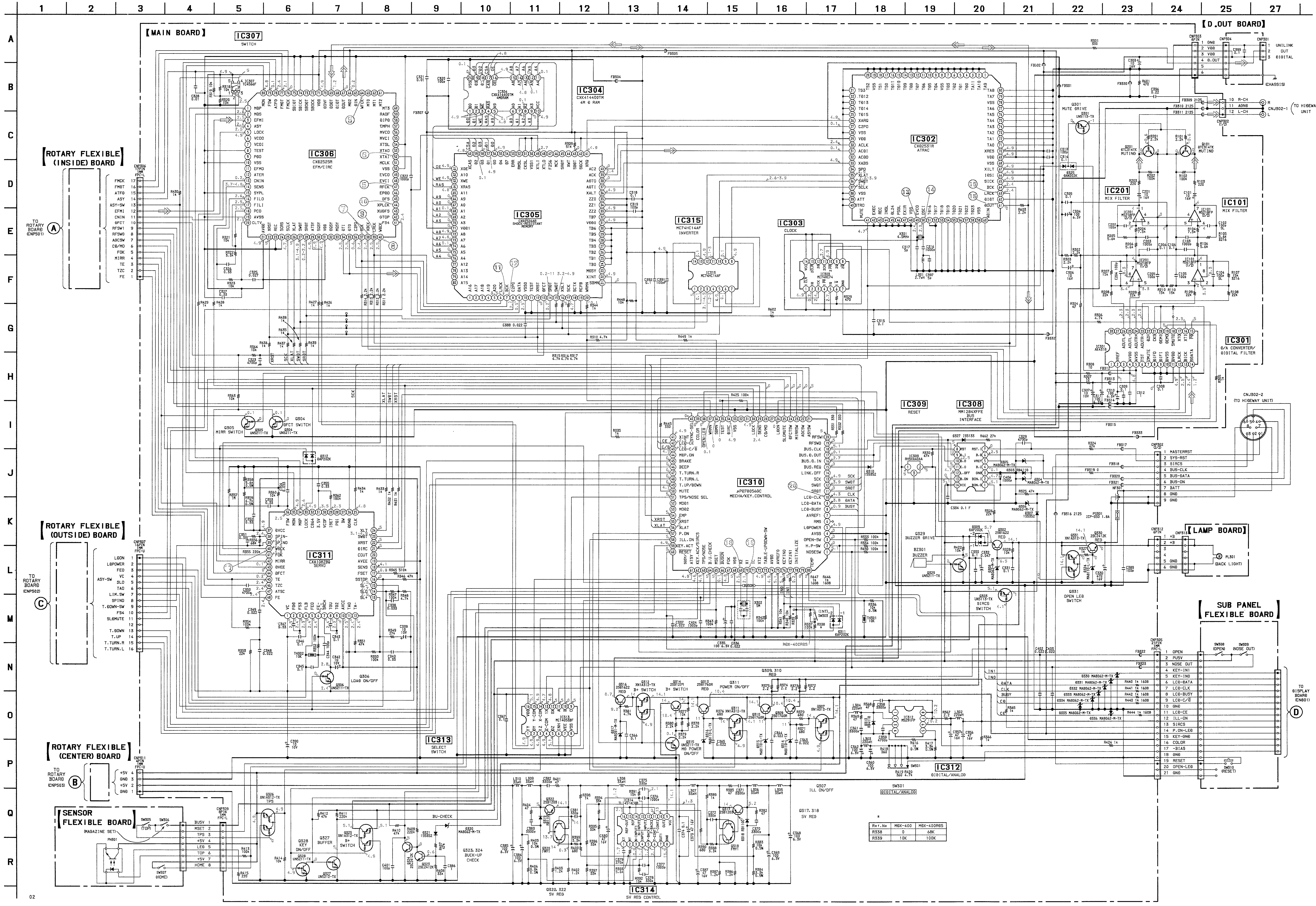
  no mark : FM/MD

  ( ) : AM (MW/LW/SW)
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.

  ⇨ : FM

  ⇨⇨ : MINI DISC
- G : German

1-5. SCHEMATIC DIAGRAM – MAIN SECTION – (1-650-784-14)


[MAIN BOARD]
[D.OUT BOARD]
IC307 SWITCH
IC306 CXD2525R EFM/CIRC
IC304 CXK41440DTM 4M D RAM
IC305 SH00C-HG107ANT MEMORY
IC302 CXD2531R ATRAC
IC315 MC74HC14AF INVERTER
IC303 CLOCK
IC201 MIX FILTER
IC101 MIX FILTER
IC301 D/A CONVERTER/ DIGITAL FILTER
IC309 RESET
IC308 MM1284XFFE BUS INTERFACE
IC310 µPD78056GC MECHA/KEY.CONTROL
IC311 CXA1082BQ SERVO
IC313 SELECT SWITCH
IC312 DIGITAL/ANALOG
IC314 5V REG CONTROL
[ROTARY FLEXIBLE (INSIDE) BOARD]
TO ROTARY BOARD (CNP501)
A
[ROTARY FLEXIBLE (OUTSIDE) BOARD]
TO ROTARY BOARD (CNP502)
C
[ROTARY FLEXIBLE (CENTER) BOARD]
TO ROTARY BOARD (CNP503)
B
[SENSOR FLEXIBLE BOARD]
(MAGAZINE SET)
[LAMP BOARD]
PL301 (BACK LIGHT)
[SUB PANEL FLEXIBLE BOARD]
TO DISPLAY BOARD (CN801)
D
TO HIGEWAY UNIT
CNJ502-1
CNJ502-2 (TO HIGEWAY UNIT)
UNILINK OUT DIGITAL
(CHASSIS)
Q301 MUTE DRIVE
Q201 MUTING
Q101 MUTING
Q305 MIRR SWITCH
Q304 DFCT SWITCH
Q306 LOAD ON/OFF
Q329 BUZZER DRIVE
BZ301 BUZZER
Q331 OPEN LED SWITCH
Q335 SIRCS SWITCH
Q309, 310 REG
Q511 POWER ON/OFF
Q307 ILL ON/OFF
Q317, 318 5V REG
Q320, 322 5V REG
Q322, 324 BUCK-UP CHECK
Q326 KEY ON/OFF
Q327 BUFFER
Q328 B+ SWITCH
SW301 DIGITAL/ANALOG
SW308 (OPEN)
SW309 (NOSE OUT)
SW310 (RESET)
SW305 (TOP)
SW307 (HOME)
PH801
BU-CHECK
MDX-400RDS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 27
A B C D E F G H I J K L M N O P Q R
02

*

Ref.No	MDX-400	MDX-400RDS
R338	0	68K
R339	10K	100K

Note :

- All capacitors are in µ F unless otherwise noted. pF: µ µ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply HIDE BOARD CN701 (BATT and ACC terminals).
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : MD (PLAY)
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : MINI DISC

1-6. PRINTED WIRING BOARDS – MAIN SECTION – (1-650-784-14)

- Refer to page 5 for Semiconductor Lead Layouts.

[MAIN BOARD] (SIDE B)
[MAIN BOARD] (SIDE A)
[D.OUT BOARD]
[SENSOR FLEXIBLE BOARD(1/2)]
[SENSOR FLEXIBLE BOARD(2/2)]
[ROTARY FLEXIBLE (INSIDE) BOARD(1/2)]
TO ROTARY BOARD
[ROTARY FLEXIBLE (CENTER) BOARD(1/2)]
TO ROTARY BOARD
[ROTARY FLEXIBLE (OUTSIDE) BOARD(1/2)]
TO ROTARY BOARD
[LAMP BOARD]
[SUB PANEL FLEXIBLE BOARD]
TO DISPLAY BOARD (CN801)
TO MODE/MBY UNIT
TO MODE/MBY UNIT
(CHASSIS)
IC301
IC302
IC303
IC304
IC305
IC306
IC310
IC311
IC312
IC313

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D303	G – 24	IC309	H – 24
D304	G – 24	IC310	J – 18
D305	G – 24	IC311	I – 22
D306	G – 25	IC312	I – 14
D307	H – 25	IC313	I – 15
D308	G – 23	IC314	E – 22
D309	H – 23	IC315	H – 15
D310	K – 19		
D311	K – 17		
D312	H – 22	Q101	E – 20
		Q201	D – 20
D313	I – 14	Q301	D – 17
D314	C – 21	Q302	G – 24
D315	C – 21	Q303	H – 25
D316	B – 22		
D317	D – 21	Q304	I – 21
		Q305	I – 20
D318	E – 20	Q306	J – 21
D319	E – 23	Q307	C – 22
D320	G – 24	Q309	C – 22
D321	H – 24		
D324	K – 24	Q310	B – 22
		Q311	A – 22
D325	C – 17	Q312	A – 23
D327	H – 24	Q313	B – 22
D330	K – 16	Q314	C – 22
D331	J – 16		
D332	K – 16	Q315	G – 23
		Q316	C – 21
D333	K – 16	Q317	D – 21
D334	K – 16	Q318	E – 21
D335	K – 16	Q320	E – 22
D336	K – 16		
		Q322	D – 23
		Q323	H – 23
IC101	E – 19	Q324	H – 23
IC201	D – 19	Q325	J – 16
IC301	D – 17	Q326	G – 20
IC302	D – 15		
IC303	E – 16	Q327	J – 16
		Q328	I – 16
IC304	F – 14	Q329	G – 19
IC305	F – 16	Q330	K – 24
IC306	F – 17	Q331	K – 25
IC307	G – 17		
IC308	G – 24		

Note:

- O—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ░ : Pattern of the rear side.
- ▒ : Pattern from the side which enables seeing.
  (The other layers' patterns are not indicated)

Caution :

Pattern face side : (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side : (Component side)	Parts on the parts face side seen from the parts face are indicated.

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D303	G - 24	IC309	H - 24
D304	G - 24	IC310	J - 18
D305	G - 24	IC311	I - 22
D306	G - 25	IC312	I - 14
D307	H - 25	IC313	I - 15
D308	G - 23	IC314	E - 22
D309	H - 23	IC315	H - 15
D310	K - 19		
D311	K - 17		
D312	H - 22	Q101	E - 20
		Q201	D - 20
D313	I - 14	Q301	D - 17
D314	C - 21	Q302	G - 24
D315	C - 21	Q303	H - 25
D316	B - 22		
D317	D - 21	Q304	I - 21
		Q305	I - 20
D318	E - 20	Q306	J - 21
D319	E - 23	Q307	C - 22
D320	G - 24	Q309	C - 22
D321	H - 24		
D324	K - 24	Q310	B - 22
		Q311	A - 22
D325	C - 18	Q312	A - 23
D327	H - 27	Q313	B - 22
D330	K - 16	Q314	C - 22
D331	J - 16		
D332	K - 16	Q315	G - 23
		Q316	C - 21
D333	K - 16	Q317	D - 21
D334	K - 16	Q318	E - 21
D335	K - 16	Q320	E - 22
D336	K - 16		
		Q322	D - 23
		Q323	H - 23
IC101	E - 19	Q324	H - 23
IC201	D - 19	Q325	J - 16
IC301	D - 17	Q326	G - 20
IC302	D - 15		
IC303	E - 16	Q327	J - 16
		Q328	I - 16
IC304	F - 14	Q329	G - 19
IC305	F - 16	Q330	K - 24
IC306	F - 17	Q331	K - 25
IC307	G - 17		
IC308	G - 24		

Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern of the rear side.
- ▨ : Pattern from the side which enables seeing.
  (The other layers' patterns are not indicated)

Caution :

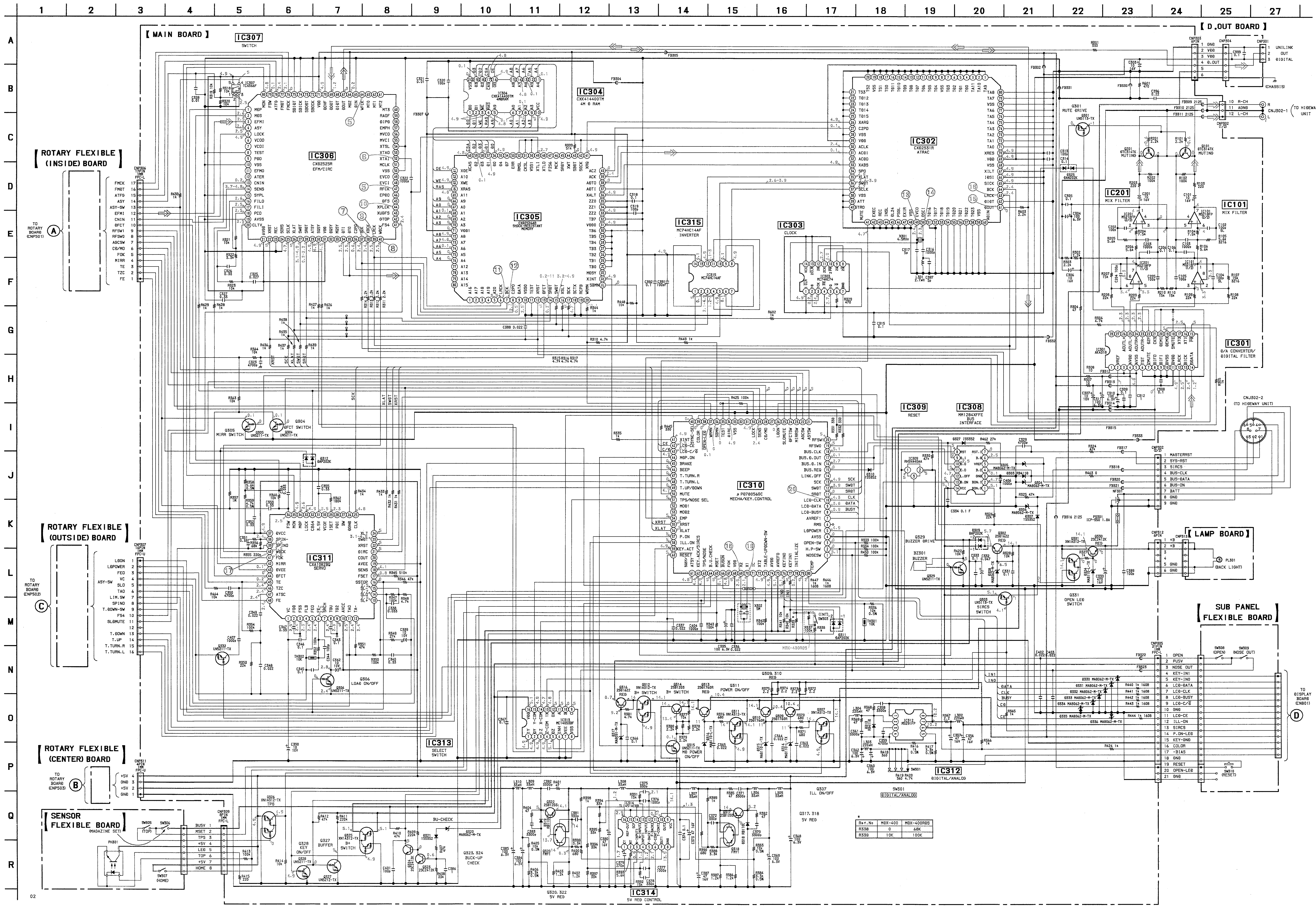
Pattern face side : (Conductor Side) Parts on the pattern face side seen from the pattern face are indicated.

Parts face side : (Component side) Parts on the parts face side seen from the parts face are indicated.

1-7. PRINTED WIRING BOARDS – MAIN SECTION – (1-650-784-15)

• Refer to page 5 for Semiconductor Lead Layouts.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
A B C D E F G H I J K
[MAIN BOARD] (SIDE B)
1-650-784-
15 (15)
02
[D.OUT BOARD]
[MAIN BOARD] (SIDE A)
(CHASSIS)
WHT
RED
L
R
CNJ302 (1/2)
F
TO HIDEAWAY UNIT
INDASH UNIT
YEL
GRN
BLU
BLK
ORG
VIO
BRN
RED
CNJ302 (2/2)
E
TO HIDEAWAY UNIT
INDASH UNIT
[SENSOR FLEXIBLE BOARD (1/2)]
[ROTARY FLEXIBLE (INSIDE) BOARD (1/2)]
1-650-789-
11
C
TO ROTARY BOARD (CNP502)
[ROTARY FLEXIBLE (CENTER) BOARD (1/2)]
1-650-144-
11
B
TO ROTARY BOARD (CNP503)
[ROTARY FLEXIBLE OUTSIDE BOARD (1/2)]
1-650-790-
11
A
TO ROTARY BOARD (CNP501)
[LAMP BOARD]
CNP313
PL301 (BACK LIGHT)
1-651-110-
12 (15)
[SENSOR FLEXIBLE BOARD (2/2)]
SW305 (MAGAZINE SET)
SW306 (TOP)
SW307 (HOME)
PH301
1-650-600-
12
[SUB PANEL FLEXIBLE BOARD]
SW308 (OPEN)
SW309 (NOSE OUT)
SW310 (RESET)
1-650-599-
12
D
TO DISPLAY BOARD (CN801)


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 27
A B C D E F G H I J K L M N O P Q R
[MAIN BOARD]
IC307 SWITCH
IC304 CXK4144OOTM 4M D RAM
IC306 CXD2525R EFM/CIRC
IC305 MEMORY
IC315 MC74HC14AF INVERTER
IC303 CLOCK
IC302 CXD2531R ATRAC
IC201 MIX FILTER
IC101 MIX FILTER
IC301 D/A CONVERTER/DIGITAL FILTER
IC309 RESET
IC308 MM1284XFFE BUS INTERFACE
IC310 µPD78056C MECHA/KEY CONTROL
IC311 CXA1082BQ SERVO
IC313 SELECT SWITCH
IC314 5V REG CONTROL
IC312 DIGITAL/ANALOG
[D.OUT BOARD]
UNILINK OUT DIGITAL
(CHASSIS)
TO HIGEWAY UNIT
CNJ302-2 (TO HIGEWAY UNIT)
[ROTARY FLEXIBLE (INSIDE) BOARD]
TO ROTARY BOARD (CNP501) Ⓐ
[ROTARY FLEXIBLE (OUTSIDE) BOARD]
TO ROTARY BOARD (CNP502) Ⓒ
[ROTARY FLEXIBLE (CENTER) BOARD]
TO ROTARY BOARD (CNP503) Ⓑ
[SENSOR FLEXIBLE BOARD]
[LAMP BOARD]
PL801 (BACK LIGHT)
[SUB PANEL FLEXIBLE BOARD]
TO DISPLAY BOARD (CNB01) Ⓓ
Q301 MUTE DRIVE
Q201 MUTING
Q101 MUTING
Q305 MIRR SWITCH
Q304 GFCT SWITCH
Q306 LOAD ON/OFF
Q329 BUZZER DRIVE
BZ301 BUZZER
Q331 OPEN LED SWITCH
Q333 SIRCS SWITCH
Q309, 310 REG
Q311 POWER ON/OFF
Q315 MD POWER ON/OFF
Q327 ILL ON/OFF
Q317, 318 5V REG
Q320, 322 5V REG
Q323, 324 BUCK-UP CHECK
Q328 KEY ON/OFF
Q327 BUFFER
B+ SWITCH
TPS
SW301 DIGITAL/ANALOG
SW905 (TOP)
SW906 (MAGAZINE SET)
SW907 (HOME)
SW908 (OPEN)
SW909 (NOSE OUT)
SW910 (RESET)
PH801

*

Ref.No	MDX-400	MDX-400RDS
R338	0	68K
R339	10K	100K

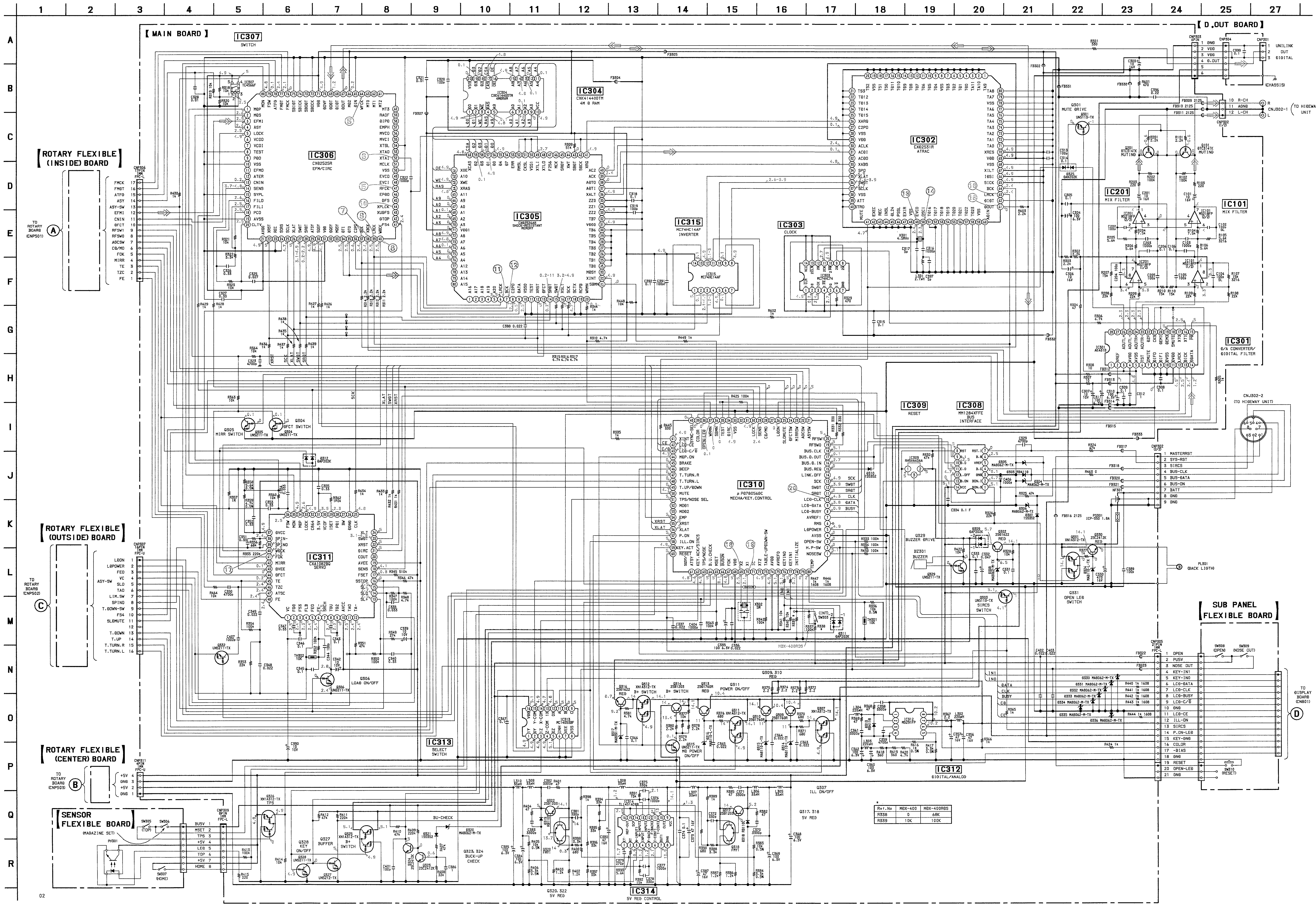
Note :

- All capacitors are in µ F unless otherwise noted. pF: µ µ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▬ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply HIDE BOARD CN701 (BATT and ACC terminals).
- Voltage and waveforms are dc with respect to ground under no-signal conditions.

  no mark : MD (PLAY)
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.

  ⇨ : MINI DISC

1-9. SCHEMATIC DIAGRAM – MAIN SECTION – (1-650-784-16)



【MAIN BOARD】
【D.OUT BOARD】
ROTARY FLEXIBLE (INSIDE) BOARD
ROTARY FLEXIBLE (OUTSIDE) BOARD
ROTARY FLEXIBLE (CENTER) BOARD
SENSOR FLEXIBLE BOARD
SUB PANEL FLEXIBLE BOARD
IC307 SWITCH
IC306 CXD2525R EFM/CIRC
IC305 SHOCK-RESISTANT MEMORY
IC304 CXK4144OTM 4M D RAM
IC315 INVERTER
IC303 CLOCK
IC302 CXD2531R ATRAC
IC201 MIX FILTER
IC101 MIX FILTER
IC301 D/A CONVERTER/ DIGITAL FILTER
IC309 RESET
IC308 BUS INTERFACE
IC310 MECHA/KEY.CONTROL
IC311 CXA1082BQ SERVO
IC313 SELECT SWITCH
IC312 DIGITAL/ANALOG
IC314 5V REG CONTROL
TO ROTARY BOARD (CNP501)
TO ROTARY BOARD (CNP502)
TO ROTARY BOARD (CNP503)
TO DISPLAY BOARD (CN801)
CNJ302-1 (TO HIGEWAY UNIT)
CNJ302-2 (TO HIGEWAY UNIT)
UNILINK OUT DIGITAL
(CHASSIS)
Q301 MUTE DRIVE
Q305 MIRR SWITCH
Q304 DFCT SWITCH
Q306 LOAD ON/OFF
Q328 KEY ON/OFF
Q327 BUFFER
Q320,322 5V REG
Q307 ILL ON/OFF
Q317,318 5V REG
Q329 BUZZER DRIVE
BZ301 BUZZER
Q331 OPEN LED SWITCH
Q333 SIRCS SWITCH
Q311 POWER ON/OFF
Q323,324 BACK-UP CHECK
PL301 CLOCK LIGHT
SW308 (OPEN)
SW309 (NOSE CUT)
SW310 (RESET)
SW305 (TOP)
SW306
SW307 (HOME)
PH301
(MAGAZINE SET)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 27
A B C D E F G H I J K L M N O P Q R

*

Ref.No	MDX-400	MDX-400RDS
R338	0	68K
R339	10K	100K

Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply HIDE BOARD CN701 (BATT and ACC terminals).
- Voltage and waveforms are dc with respect to ground under no-signal conditions.

  no mark : MD (PLAY)
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.

  ⇨ : MINI DISC

1-10. PRINTED WIRING BOARDS – MAIN SECTION – (1-650-784-16)

• Refer to page 5 for Semiconductor Lead Layouts.

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23
24
25
26
27
28
29
30
31
32
33
34
35
36
A
B
C
D
E
F
G
H
I
J
K
[MAIN BOARD] (SIDE B)
[MAIN BOARD] (SIDE A)
[D.OUT BOARD]
(CHASSIS)
CNJ302 (1/2)
F TO HIDEAWAY UNIT INDASH UNIT
L
R
YEL
GRN
BLU
BLK
ORG
VIO
BRN
RED
CNJ302 (2/2)
E TO HIDEAWAY UNIT INDASH UNIT
[SENSOR FLEXIBLE BOARD (1/2)]
[SENSOR FLEXIBLE BOARD (2/2)]
[ROTARY FLEXIBLE (INSIDE) BOARD (1/2)]
1-650-789-
C TO ROTARY BOARD (CNP502)
[ROTARY FLEXIBLE (CENTER) BOARD (1/2)]
1-650-144-
B TO ROTARY BOARD (CNP503)
[ROTARY FLEXIBLE (OUTSIDE) BOARD (1/2)]
1-650-790-
A TO ROTARY BOARD (CNP501)
[SUB PANEL FLEXIBLE BOARD]
D TO DISPLAY BOARD (CN801)
1-650-784-
PL301 (BACK LIGHT)
IC301
IC302
IC303
IC304
IC305
IC306
IC307
IC308
IC310
IC311
IC312
IC313
IC201
IC101

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D303	G - 24	IC309	H - 24
D304	G - 24	IC310	J - 18
D305	G - 24	IC311	I - 22
D306	G - 25	IC312	I - 14
D307	H - 25	IC313	I - 15
D308	G - 23	IC314	E - 22
D309	H - 23	IC315	H - 15
D310	K - 19		
D311	K - 17		
D312	H - 22	Q101	E - 20
		Q201	D - 20
D313	I - 14	Q301	D - 17
D314	C - 21	Q302	G - 24
D315	C - 21	Q303	H - 25
D316	B - 22		
D317	D - 21	Q304	I - 21
		Q305	I - 20
D318	E - 20	Q306	J - 21
D319	E - 23	Q307	C - 22
D320	G - 24	Q309	C - 22
D321	H - 24		
D324	K - 24	Q310	B - 22
		Q311	A - 22
D325	C - 18	Q312	A - 23
D330	K - 16	Q313	B - 22
D331	J - 16	Q314	C - 22
D332	K - 16		
D333	K - 16	Q315	G - 23
		Q316	C - 21
D334	K - 16	Q317	D - 21
D335	K - 16	Q318	E - 21
D336	K - 16	Q320	E - 22
		Q322	D - 23
IC101	E - 19	Q323	H - 23
IC201	D - 19	Q324	H - 23
IC301	D - 17	Q325	J - 16
IC302	D - 15	Q326	G - 20
IC303	E - 16		
		Q327	J - 16
IC304	F - 14	Q328	I - 16
IC305	F - 16	Q329	G - 19
IC306	F - 17	Q330	K - 24
IC307	G - 17	Q331	K - 25
IC308	G - 24		

Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern of the rear side.
- ▨ : Pattern from the side which enables seeing.
  (The other layers' patterns are not indicated)

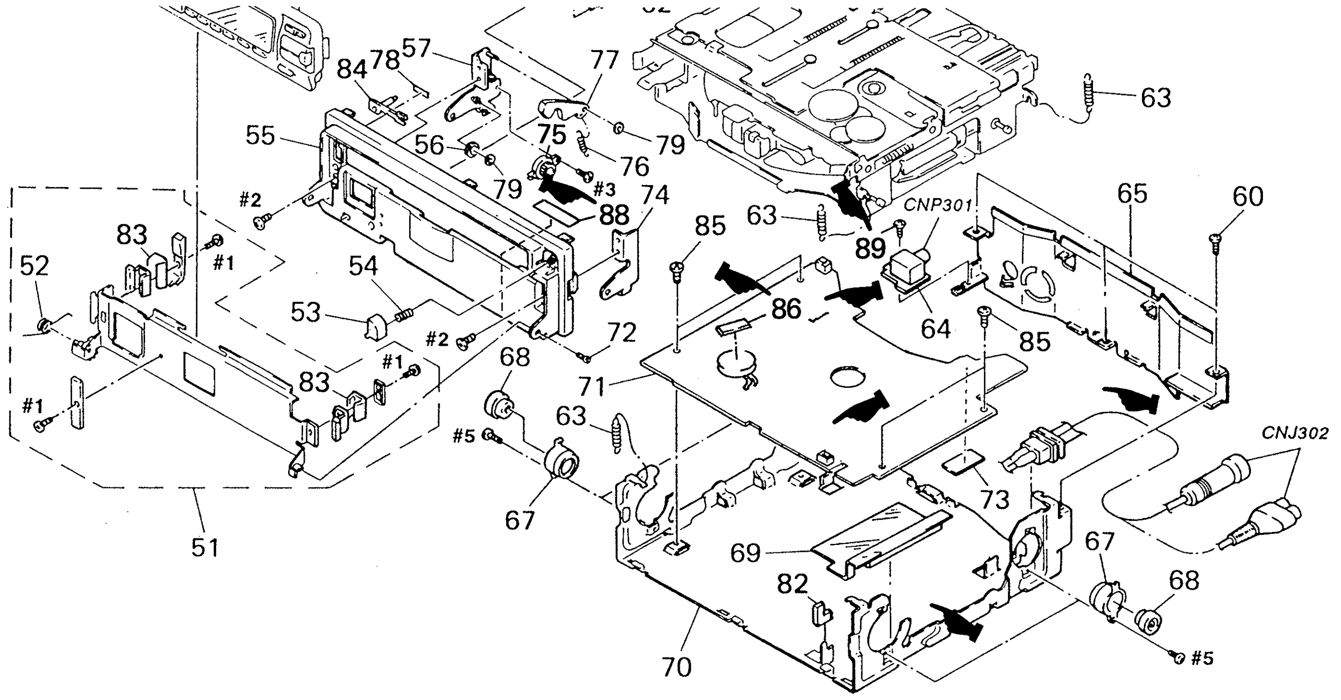
Caution :

Pattern face side : (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side : (Component side)	Parts on the parts face side seen from the parts face are indicated.

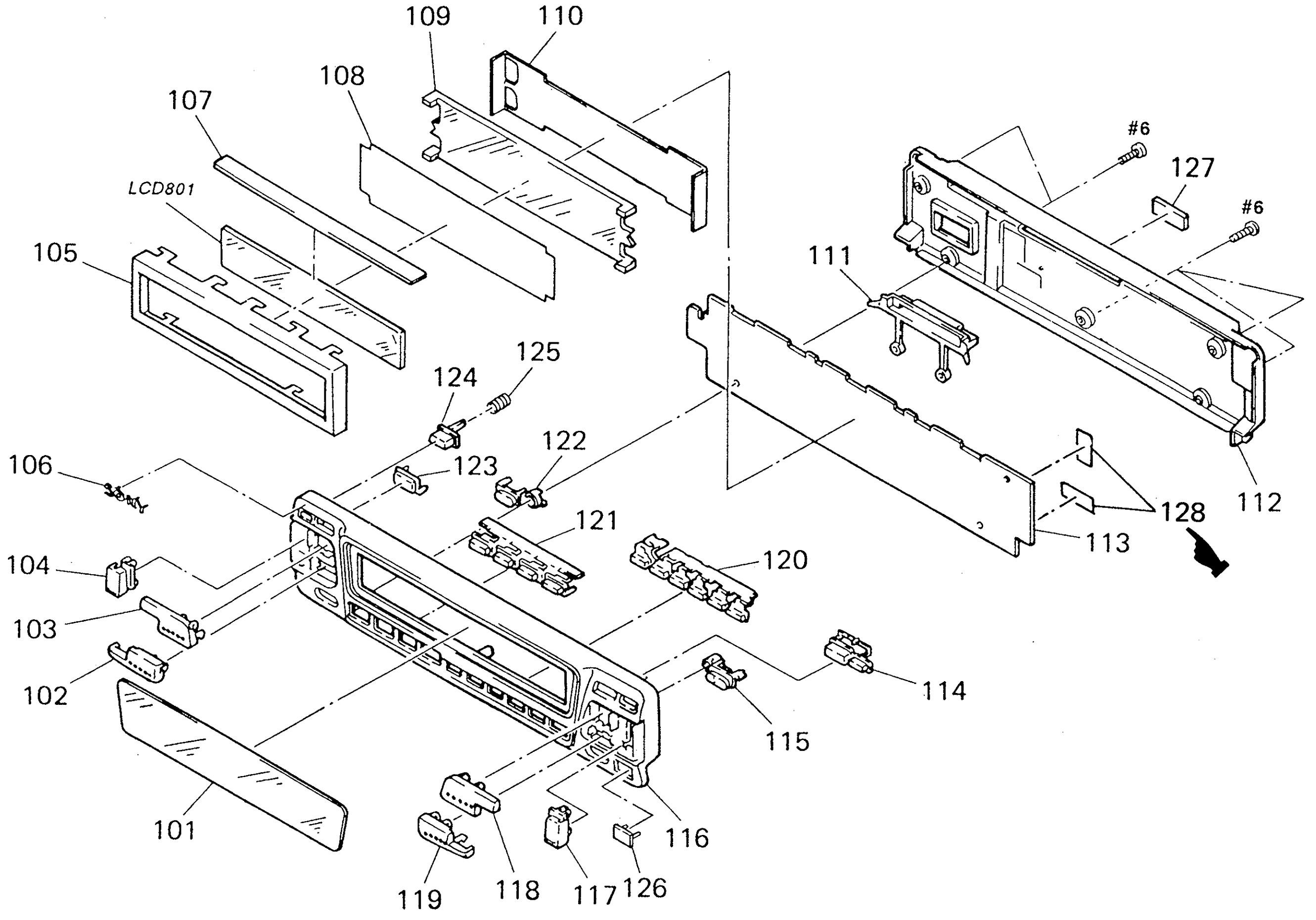
2. EXPLODED VIEWS

☛ : **Added or deleted portion**

CABINET, CHASSIS SECTION (Service Manual See page 60)


84
78
57
77
63
55
56
75
79
76
79
#3
74
#2
88
85
63
89
CNP301
65
60
83
#1
52
54
53
#2
86
64
85
72
68
71
#1
83
#1
63
#5
67
73
CNJ302
51
67
69
82
67
68
70
#5

FRONT PANEL SECTION (Service Manual See page 61)


109
110
108
107
#6
127
#6
LCD801
105
111
125
124
122
106
123
121
128
112
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113
103
114
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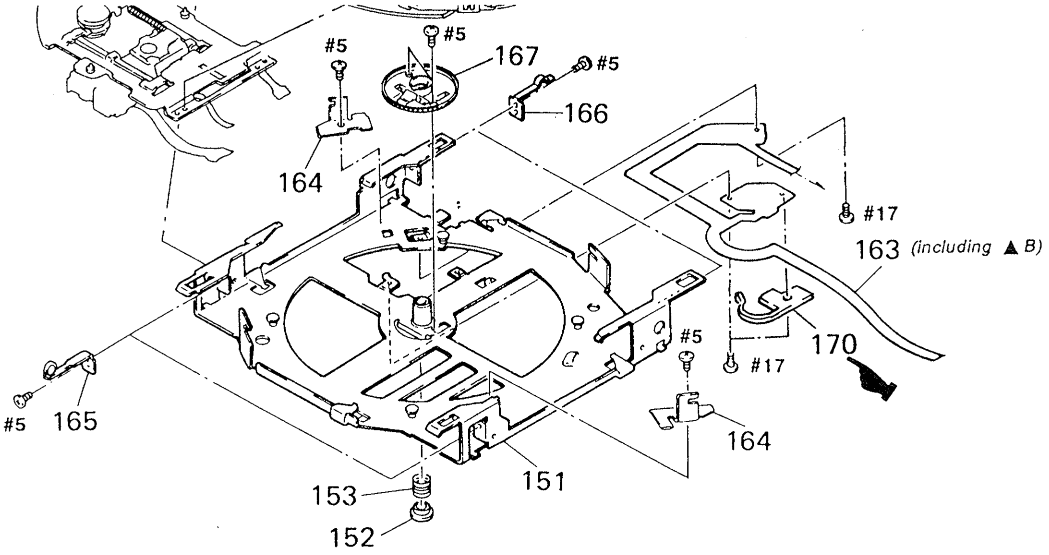
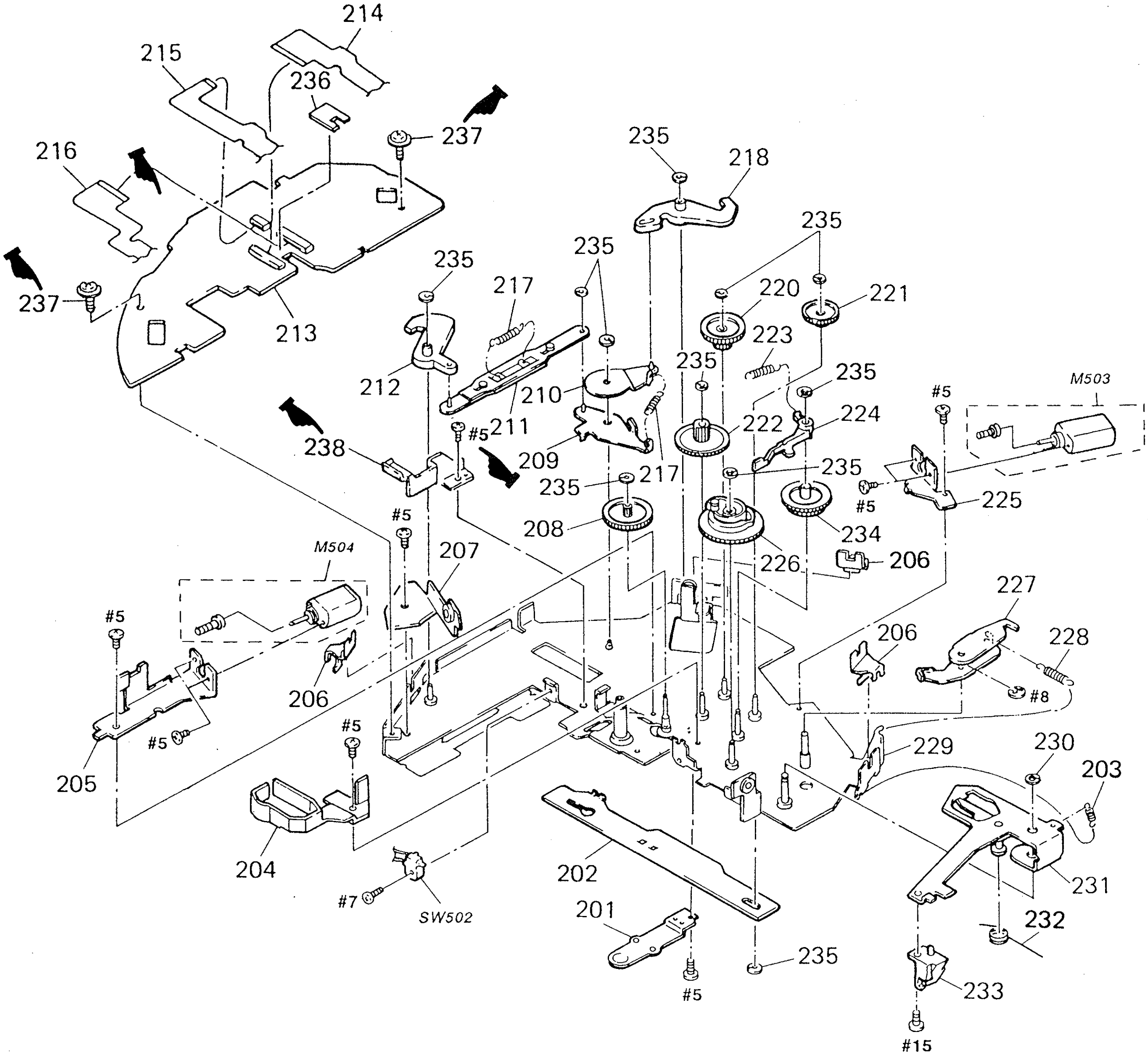
115
101
116
119
118
117
126

MECHANISM SECTION-1 (Service Manual See page 62)


#5
167
#5
#5
166
164
#17
163 (including ▲B)
170
#5
#17
#5
165
164
153
151
152

MECHANISM SECTION-2 (Service Manual See page 63)


214
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213
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221
223
212
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211
#5
224
M503
238
#5
209
222
217
235
235
225
#5
208
234
#5
207
226
206
M504
227
#5
206
228
206
#8
205
#5
#5
229
230
203
204
#7
SW502
202
231
201
232
235
233
#5
#15

3. EXPLODED VIEWS PARTS LIST (Service Manual See page 60 – 63)

	Former Type		New Type		
Ref. No.	Part No.	Description	Part No.	Description	Remark
71	A-3222-672-A	MAIN BOARD COMPLETE (MDX-400)	A-3295-870-A	MAIN BOARD COMPLETE (MDX-400)	Changed
74	X-3367-789-1	HOLDER (R) ASSY	3-907-903-01	HOLDER (R)	Changed
80	1-651-110-12	LAMP BOARD	————	(with MAIN BOARD)	Deleted
81	3-907-918-01	CUSHION (STTOPPER B)	————	————	Deleted
86	————	————	3-911-121-01	SPACER (BUZZER)	Added
87	————	————	3-918-212-11	SCREW (+PTT 2X4 C TIGHT)	Added
88	————	————	3-912-982-01	SHEET (REFLECTION)	Added
128	————	————	3-912-971-01	CUSHION (H)	Added
170	————	————	3-912-230-01	SPRING (HOME SW)	Added
219	3-911-214-01	SHEET (FLEXIBLE B)	————	————	Deleted
237	————	————	3-701-468-01	SCREW (+-2X4), LOCK	Added
238	————	————	3-914-238-01	HOLDER (FLEXIBLE)	Added

• ACCESSORIES & PACKING MATERIALS (Service Manual See page 81)

	Former Type		New Type		
Ref. No.	Part No.	Description	Part No.	Description	Remark
	3-909-677-01	CUSHION (RIGHT)	————	————	Deleted
	3-909-678-01	CUSHION (LEFT)	————	————	Deleted
	3-912-971-01	CUSHION (H)	————	————	Deleted
	————	————	7-684-024-04	N4, TYPE2 (MDX-400:US, Canadian)	Added

• HARDWARE LIST (Service Manual See page 81)

• G : German

	Former Type		New Type		
Ref. No.	Part No.	Description	Part No.	Description	Remark
#4	7-621-255-25	SCREW (+-2X4), LOCK	————	————	Deleted
#17	7-621-772-08	SCREW +B 2X3	7-621-255-15	SCREW +B 2X3	Changed
501	X-3366-235-1	FRAME ASSY, FITTING	3-916-161-01	FRAME FITTING	Changed
504	X-3367-788-1	SHAFT (FITTING) ASSY	X-3367-788-1	SHAFT (FITTING) ASSY (MDX-400:E/MDX-400RDS:AEP, G)	Changed
506	3-349-410-01	BUSHING	3-349-410-01	BUSHING (MDX-400:E/MDX-400RDS:AEP, G)	Changed

4. ELECTRICAL PARTS LIST (Service Manual See page 66 – 81)

● G : German

HIDEAWAY

Ref. No.	Former Type		New Type		Remarks
	Part No.	Description	Part No.	Description	
C64	1-136-158-00	0.027	1-136-158-00	FILM 0.027 5% 50V (MDX-400/MDX-400RDS:AEP)	Changed
C64	—		1-136-155-00	FILM 0.015 5% 50V (MDX-400RDS:G)	Added
C65	1-136-158-00	0.027	1-136-158-00	FILM 0.027 5% 50V (MDX-400/MDX-400RDS:AEP)	Changed
C65	—		1-136-155-00	FILM 0.015 5% 50V (MDX-400RDS:G)	Added
C72	1-163-237-11	27PF (MDX-400RDS)	1-163-229-11	CERAMIC CHIP 12PF 5% 50V (MDX-400RDS)	Changed
C73	1-163-237-11	27PF (MDX-400RDS)	1-163-229-11	CERAMIC CHIP 12PF 5% 50V (MDX-400RDS)	Changed
C95	—		1-163-133-00	CERAMIC CHIP 470PF 5% 50V	Added
C96	—		1-126-786-11	ELECT 47uF 20% 16V (MDX-400RDS:G)	Added
C130	1-164-004-11	0.1uF (MDX-400RDS:G)	1-110-501-91	CERAMIC CHIP 0.33uF 10% 16V (MDX-400RDS:G)	Changed
C230	1-164-004-11	0.1uF (MDX-400RDS:G)	1-110-501-91	CERAMIC CHIP 0.33uF 10% 16V (MDX-400RDS:G)	Changed
C551	—		1-163-038-00	CERAMIC CHIP 0.1 10% 25V	Added
C552	—		1-163-038-00	CERAMIC CHIP 0.1 10% 25V	Added
C987	—		1-163-133-00	CERAMIC CHIP 470PF 5% 50V	Added
C999	—		1-163-129-00	CERAMIC CHIP 330PF 50V	Added
D30	—		8-719-988-62	DIODE 1SS355 (MDX-400RDS:G)	Added
IC601	8-759-255-76	MN1882417SNV (MDX-400)	8-759-263-78	IC MN1882417SZP (MDX-400)	Changed
JP1	1-216-296-00	0	—		Deleted
JP601	1-216-295-00	0	1-214-743-00	METAL CHIP 0 5% 1/10W (MDX-400RDS)	Changed
JP602	1-216-295-00	0 (MDX-400:US, Canadian/ MDX-400RDS:AEP, UK)	1-124-743-00	METAL CHIP 0 5% 1/10W (MDX-400:US, Canadian/MDX-400RDS:AEP, UK)	Changed
JP701	1-216-295-00	0	1-124-743-00	METAL CHIP 0 5% 1/10W	Changed
L1	1-410-324-11	4.7uH	1-410-324-11	INDUCTOR 4.7uH (MDX-400)	Changed
L7	1-414-137-31	0.22uH	—		Deleted
Q30	—		8-729-421-22	TRANSISTOR UN2211 (MDX-400RDS:G)	Added
R43	1-216-295-00	0 (MDX-400RDS)	1-214-743-00	METAL CHIP 0 5% 1/10W (MDX-400RDS)	Changed
R49	1-216-295-00	0	1-214-743-00	METAL CHIP 0 5% 1/10W	Changed

Ref. No.	Former Type		New Type		Remarks
	Part No.	Description	Part No.	Description	
R90	—		1-214-743-00	METAL CHIP 0 5% 1/10W (MDX-400)	Added
R90	—		1-214-049-00	METAL CHIP 1K 5% 1/10W (MDX-400RDS)	Added
R91	—		1-214-743-00	METAL CHIP 0 5% 1/10W (MDX-400RDS)	Added
R92	—		1-214-743-00	METAL CHIP 0 5% 1/10W (MDX-400, MDX-400RDS:AEP)	Added

ROTARY (Service Manual See page 79, 80, Supplement-1 See page 50)

Ref. No.	Former Type		New Type		Remarks
	Part No.	Description	Part No.	Description	
C538	—		1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	Added

DISPLAY (Service Manual See page 66 – 68, Supplement-1 See page 50)

Ref. No.	Former Type		New Type		Remarks
	Part No.	Description	Part No.	Description	
IC802	8-759-515-60	RS-20	8-749-925-07	IC RS-30E	Changed
IC803	8-759-205-62	TC4050BF-TP1	8-759-009-04	IC MC14050BF	Changed
SW801	1-572-474-11	SWITCH, TACTIL	1-571-938-11	SWITCH, TACTIL	Changed
SW802	1-572-474-11	SWITCH, TACTIL	1-571-938-11	SWITCH, TACTIL	Changed
SW803	1-572-474-11	SWITCH, TACTIL	1-571-938-11	SWITCH, TACTIL	Changed
SW804	1-572-474-11	SWITCH, TACTIL	1-571-938-11	SWITCH, TACTIL	Changed
SW805	1-572-474-11	SWITCH, TACTIL	1-571-938-11	SWITCH, TACTIL	Changed
SW808	1-572-474-11	SWITCH, TACTIL	1-571-938-11	SWITCH, TACTIL	Changed
SW809	1-572-474-11	SWITCH, TACTIL	1-571-938-11	SWITCH, TACTIL	Changed
SW810	1-572-474-11	SWITCH, TACTIL	1-571-938-11	SWITCH, TACTIL	Changed
SW811	1-572-474-11	SWITCH, TACTIL	1-571-938-11	SWITCH, TACTIL	Changed
SW816	1-572-474-11	SWITCH, TACTIL	1-571-938-11	SWITCH, TACTIL	Changed
TH801	1-810-216-11	THERMISTOR, CHIP	1-810-421-11	THERMISTOR, CHIP	Changed

MAIN (Service Manual See page 74 – 79, Supplement-1 See page 50)

Ref. No.	Former Type		New Type						Remarks
	1-650-784-13		1-650-784-14		1-650-784-15		1-650-784-16		
	Part No.	Description	Part No.	Description	Part No.	Description	Part No.	Description	
C404	—		1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	Added
C406	—		1-163-009-11	CERAMIC CHIP 0.001 10% 50V	1-163-009-11	CERAMIC CHIP 0.001 10% 50V	1-163-009-11	CERAMIC CHIP 0.001 10% 50V	Added
C407	—		—		1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	Added
CNP312	1-764-376-31	CONNECTOR	1-764-376-31	CONNECTOR	1-764-376-31	CONNECTOR	—		Deleted
D325	—		8-719-914-43	DIODE DAN202K	8-719-914-43	DIODE DAN202K	8-719-914-43	DIODE DAN202K	Added
D327	—		8-719-901-33	DIODE 1SS133	8-719-901-33	DIODE 1SS352	—		Deleted
IC308	8-759-096-18	MM1176XFF	8-759-284-87	IC MM1284XFFE	8-759-284-87	IC MM1284XFFE	8-759-284-87	IC MM1284XFFE	Changed
IC309	8-759-940-45	S-8054HN-CB	8-759-297-47	IC RH5VA40AA	8-759-297-47	IC RH5VA40AA	8-759-297-47	IC RH5VA40AA	Changed
IC310	8-759-269-90	μPD78056YGC-W14-3B9	8-759-327-37	IC μPD78056GC-048-3B9	8-759-327-37	IC μPD78056GC-048-3B9	8-759-327-37	IC μPD78056GC-048-3B9	Changed
PL301	—		—		—		1-517-181-31	LAMP, PILOT	Added
Q101	8-729-120-28	2SC1623-L5L6	8-729-920-21	DTC314TK	8-729-920-21	DTC314TK	8-729-920-21	DTC314TK	Changed
Q201	8-729-120-28	2SC1623-L5L6	8-729-920-21	DTC314TK	8-729-920-21	DTC314TK	8-729-920-21	DTC314TK	Changed
R338	1-216-295-00	0	1-214-743-00	METAL CHIP 0 5% 1/10W	1-214-743-00	METAL CHIP 0 5% 1/10W	1-214-743-00	METAL CHIP 0 5% 1/10W	Changed
R463	1-216-295-91	0	1-214-743-00	METAL CHIP 0 5% 1/10W	1-214-743-00	METAL CHIP 0 5% 1/10W	1-214-743-00	METAL CHIP 0 5% 1/10W	Changed
R464	—		—		1-216-833-11	METAL CHIP 10K 5% 1/16W	1-216-833-11	METAL CHIP 10K 5% 1/16W	Added
SW301	1-571-506-41	SWITCH, SLIDE	1-571-506-41	SWITCH, SLIDE	1-571-506-41	SWITCH, SLIDE	—		Deleted
	1-651-110-12	LAMP BOARD	1-651-110-12	LAMP BOARD	1-651-110-12	LAMP BOARD	—		Deleted
CNP313	1-764-377-31	CONNECTOR	1-764-377-31	CONNECTOR	1-764-377-31	CONNECTOR	—		Deleted
PL301	1-517-181-31	LAMP, PILOT	1-517-181-31	LAMP, PILOT	1-517-181-31	LAMP, PILOT	—		Deleted

MDX-400/400RDS

SONY

SERVICE MANUAL

US Model
Canadian Model
E Model
MDX-400

AEP Model
UK Model
MDX-400RDS

SUPPLEMENT-3

File the Supplement with the Service Manual and Supplement-1, 2.

Subject :

1. **Electrical Adjustment Changes and Additions. (Pages 13, 14 & 16 of Supplement-1)**
2. **Corrections of Exploded Views Parts List. (Page 65 of Service Manual)**

(SPM-94029, 95009)

SECTION 4
ELECTRICAL ADJUSTMENTS

☛ : changes and additions portion

Setting of Test Mode

1. Press OFF button (OFF state becomes set).
2. Press preset 4 button.
3. Press preset 5 button.
4. Press preset 1 button.
5. Entire display turns ON, and test mode is instated.

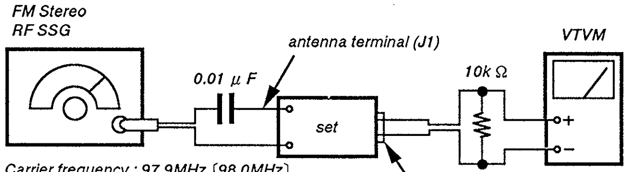
RADIO SECTION

> **• CAUTIONS ON REPAIRS**
> If the front end becomes defective, replace it entirely because its internal repairs are rather difficult.

Setting :
DIVERSITY switch : OFF
POWER SEL switch : ON
Connect the rotary commander jack to CN702.

FM Noise Focus Adjustment

Setting :
no mark : MDX-400
〔 〕 : MDX-400RDS



Carrier frequency : 97.9MHz 〔98.0MHz〕
Output level : 60dB μ V (1mV)
Mode : stereo
Modulation : 1kHz, 75kHz deviation

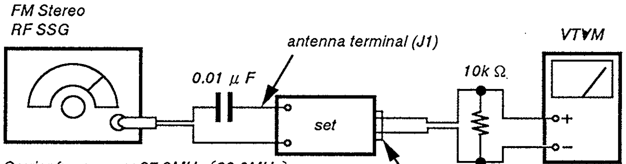
Procedure :

1. Set FM mode by pressing the SOURCE button of rotary commander.
2. Set 97.9MHz 〔98.0MHz〕 by pressing the preset 3 button.
3. Adjust the output to 0dB (1mV) by turning the VOL of rotary commander.
4. Adjust the TU1 built in semi-fixed resistor, so that the output becomes − 30 ± 2dB, when the output level of RF SSG is set at − 20dB μ V (0.1 μ V).

Adjusting Location : HIDEWAY board TU1

High Cut Control Adjustment

Setting :
no mark : MDX-400
〔 〕 : MDX-400RDS



Carrier frequency : 97.9MHz 〔98.0MHz〕
Output level : 60dB μ V (1mV)
Mode : mono
Modulation : 10kHz, 40kHz deviation

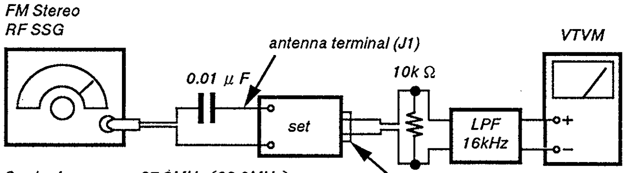
Procedure :

1. Set FM mode by pressing the SOURCE button of rotary commander.
2. Set 97.9MHz 〔98.0MHz〕 by pressing the preset 3 button.
3. Adjust the output to 0dB (1mV) by turning the VOL of rotary commander.
4. Adjust the TU1 built in semi-fixed resistor, so that the output becomes − 5 ± 1dB, when the output level of RF SSG is set at 20dB μ V (10 μ V).

Adjusting Location : HIDEWAY board TU1

FM Separation Adjustment

Setting :
no mark : MDX-400
〔 〕 : MDX-400RDS



Carrier frequency : 97.9MHz 〔98.0MHz〕
Output level : 60dB μ V (1mV)
Modulation : Main ; 1kHz, 33.75kHz deviation
Sub ; 1kHz, 33.75kHz deviation
19kHz Pilot ; 7.5kHz deviation

Procedure :

1. Set FM mode by pressing the SOURCE button of rotary commander.
2. Set 97.9MHz 〔98.0MHz〕 by pressing the preset 3 button.
3. Adjust the output to 0dB (1mV) by turning the VOL of rotary commander.
4. Adjust the separation of line out to its best level, by turning the TU1 built-in semi-fixed resistor.

FM Stereo SSG output channel	Connection of VTVM	Reading VTVM (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust the reading of VTVM to its minimum level, by turning the TU1 built-in semi-fixed resistor.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust the reading of VTVM to its minimum level, by turning the TU1 built-in semi-fixed resistor.

L-CH Stereo separation : Ⓐ − Ⓑ
R-CH Stereo separation : Ⓒ − Ⓓ

The separation values of both channels should be approximately identical.

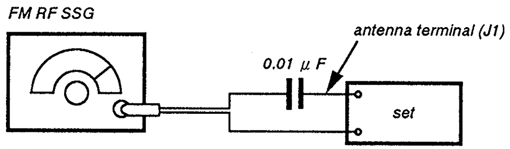
Reference value : 27dB or more

Adjusting Location : HIDEWAY board TU1

FM Auto Scan/Stop Level Adjustment

Setting :

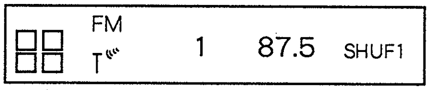
no mark : MDX-400
〔 〕 : MDX-400RDS


FM RF SSG
antenna terminal (J1)
0.01 µ F
set

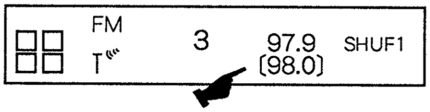
Carrier frequency : 97.9MHz 〔98.0MHz〕
Output level : 20 – 24dBµV (10 – 15.8µV)
Mode : mono, no modulation

Procedure :

1. Set test mode (See page 10).
2. Set FM mode by pressing the SOURCE button of rotary commander.


FM
1
87.5
SHUF1

3. Press preset 3 button.


FM
3
97.9
〔98.0〕
SHUF1

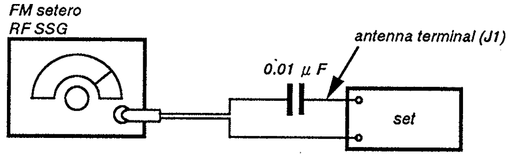
4. Adjust the TU1 built-in semi-fixed resistor, so that the display shows "0".

Adjusting Location : HIDEWAY board TU1

S-Meter Adjustment

Setting :

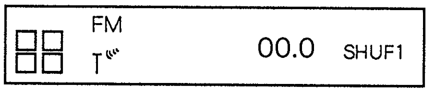
no mark : MDX-400
〔 〕 : MDX-400RDS


FM setero
RF SSG
antenna terminal (J1)
0.01 µ F
set

Carrier frequency : 97.9MHz 〔98.0MHz〕
Output level : 35dBµV (56µV)
Modulation : no modulation

Procedure :

1. Set test mode (See page 10).
2. Set FM mode by pressing the SOURCE button of rotary commander.
3. Press preset 10 button.


FM
00.0
SHUF1

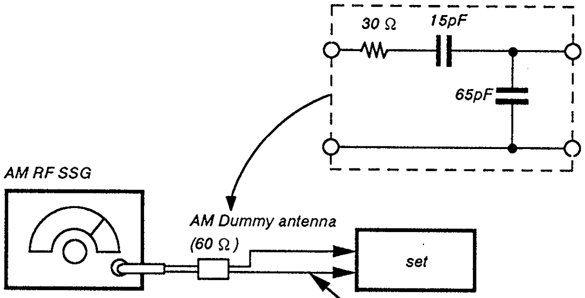
4. Adjust RV601, so that the display value becomes "11.8 ± 0.2".

Adjusting Location : HIDEWAY board TU1

AM Auto Scan/Stop Level Adjustment

Caution : Make this adjustment, after adjusting the FM auto scan stop level adjustment.

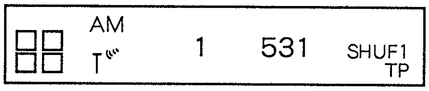
Setting :


30 Ω
15pF
65pF
AM RF SSG
AM Dummy antenna
(60 Ω)
set
antenna terminal (J1)

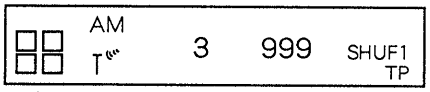
Carrier frequency : 999kHz
Output level : 30 – 36dBµV (31.6 – 63.0µV)
Modulation : 30% AM modulation

Procedure :

1. Set test mode (See page 10).
2. Set FM mode by pressing the SOURCE button of rotary commander.


AM
1
531
SHUF1
TP

3. Press preset 3 button.


AM
3
999
SHUF1
TP

4. Adjust the TU1 built-in semi-fixed resistor, so that the display shows "0".

Adjusting Location : HIDEWAY board TU1

Focus/Tracking Gain Adjustment

- Servo analyzer is needed to make this adjustment accurately.
- Only adjust the servo gain when the pick-up is replaced.
  In other cases, do not adjust the servo gain unless you have a servo analyzer.

Method of connecting to servo analyzer :

1. Disconnect the 2 soldered jumpers of TE & FE, and connect the servo analyzer as shown in the following diagram. At this time, connect IC504 to the output of servo analyzer, and the volumes to the input of servo analyzer.
2. Set the disturbance of servo analyzer at 1.2kHz, 50mV.

Procedure :

1. Insert MO disc (SONY 60 minute) in its magazine, and place it in the set.
2. Set MD (indash) test mode (See page 10).
3. Turn ON the FOCUS and CLV by pressing $\boxed{1}$.
4. Turn on the tracking servo by pressing $\boxed{2}$, and adjust RV507 (Tracking Gain Adjustment) and RV508 (Focus Gain Adjustment) so that both the tracking and focus become $-1^{+0.5}_{-1.0}$ dB.
5. Disconnect the servo analyzer, and short the 2 soldered jumpers of TE & FE.

Simple adjustment method

- When replacing the semi-fixed resistor for servo gain adjustment, set the new semi-fixed resistor to the same position as the old semi-fixed resistor, then adjust as follows.

Not using the servo gain adjustment jig

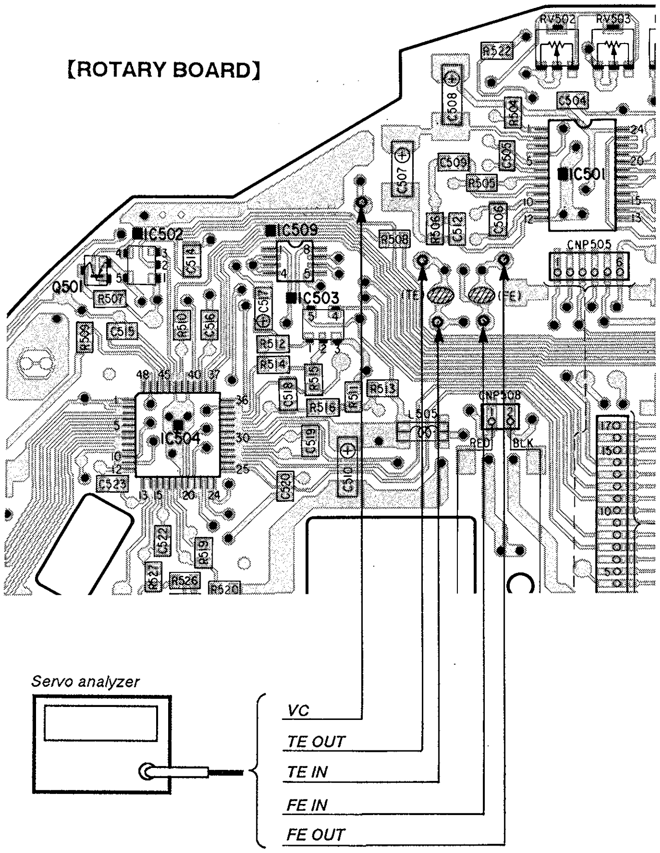
1. Focus gain adjustment
   Play the 11th song of the defect disc fingerprint disc for at least 1 minute and check that not even one FOK drops out. Only if one does drop out, lower the gain so that no FOK drops out.
2. Tracking gain adjustment
   Play the defect disc dot band disc and check for one minute that the servo does not lose tracking (lock drop out) on any of the tracks. Only if the lock is lost for a track, lower the gain so that the lock is not lost.

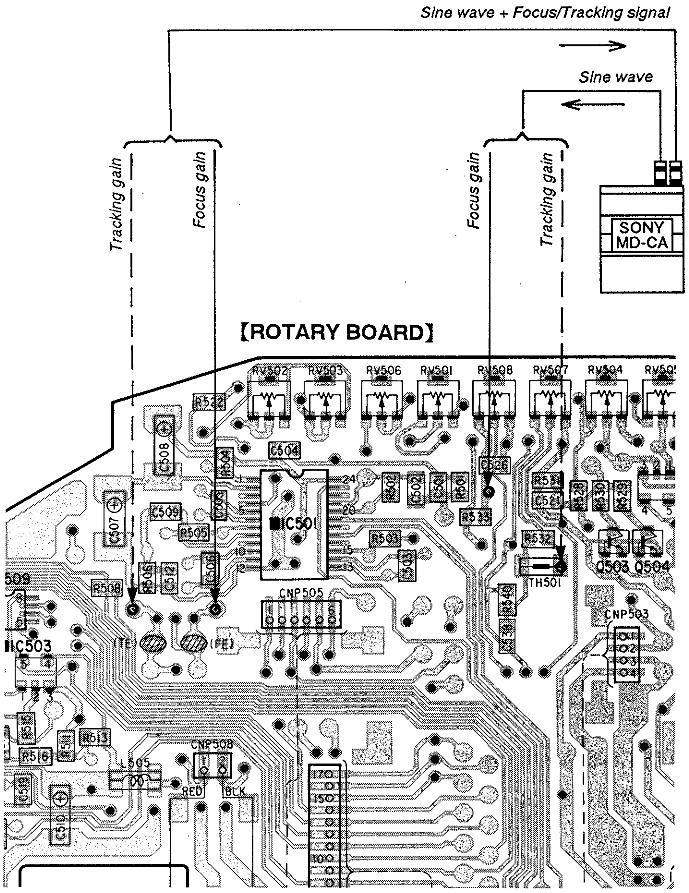
Using the servo gain adjustment jig (AEP, UK model only)

Connect the servo gain adjustment jig and adjust as follows.

1. Focus gain adjustment
   Adjust RV508 so that the servo gain adjustment jig phase is 90°.
2. Tracing gain adjustment
   Adjust RV507 so that the servo gain adjustment jig phase is 100°.

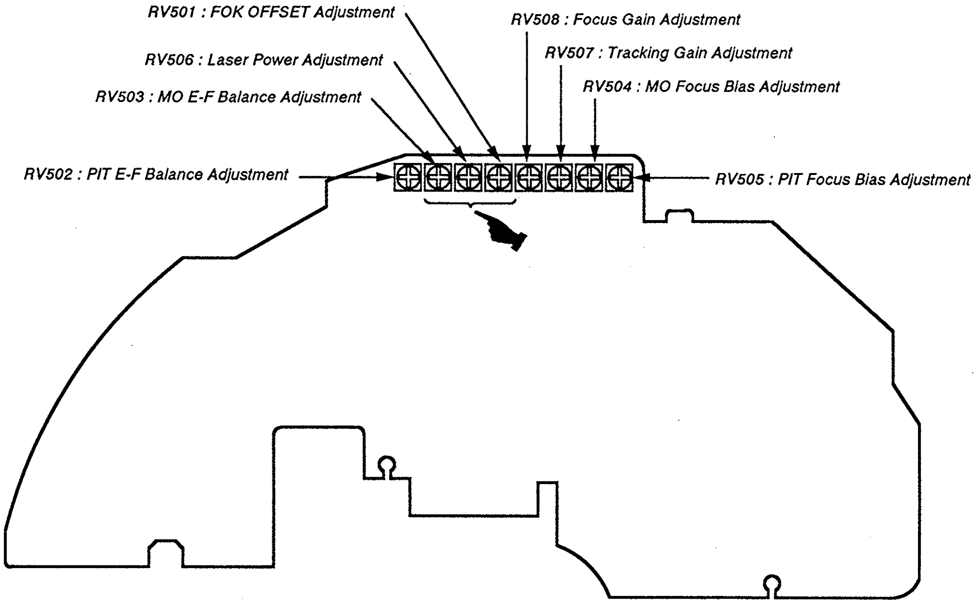
Note : For sets for which C538 (0.001) is not mounted, connect R540 (10k) in parallel and adjust.


[ROTARY BOARD]
RV502
RV503
R522
C508
C504
R504
IC501
C509
R505
C507
C506
IC502
IC509
Q501
R507
IC503
R508
CNP505
TE
FE
C515
R509
R510
R512
R514
C516
C517
IC504
R513
CNP508
L505
RED
BLK
C523
C522
R519
R527
R526
Servo analyzer
VC
TE OUT
TE IN
FE IN
FE OUT


Sine wave + Focus/Tracking signal
Sine wave
Tracking gain
Focus gain
Focus gain
Tracking gain
SONY MD-CA
[ROTARY BOARD]
RV502
RV503
RV506
RV501
RV508
RV507
RV504
R522
C508
C504
IC501
C509
R505
C507
R508
CNP505
TE
FE
R533
R532
TH501
Q503
Q504
CNP503
IC503
R513
CNP508
L505
RED
BLK
R540
C538

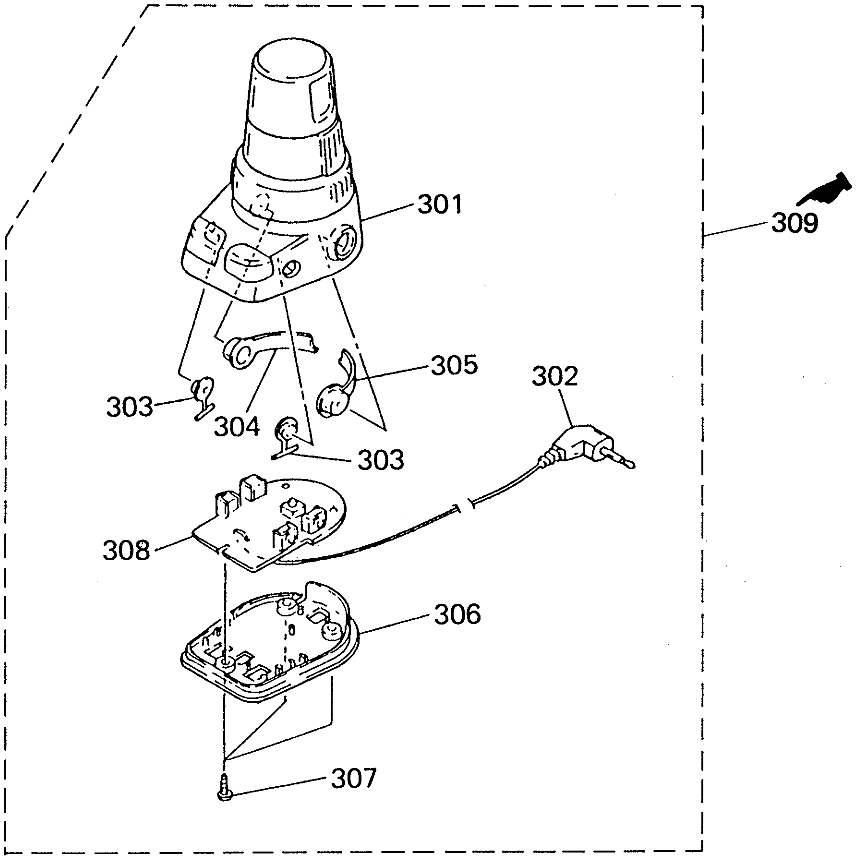
Adjustment Location :

[ROTARY BOARD] (Conductor side)


RV501 : FOK OFFSET Adjustment
RV506 : Laser Power Adjustment
RV503 : MO E-F Balance Adjustment
RV502 : PIT E-F Balance Adjustment
RV508 : Focus Gain Adjustment
RV507 : Tracking Gain Adjustment
RV504 : MO Focus Bias Adjustment
RV505 : PIT Focus Bias Adjustment

☛ : Corrected portion

ROTARY COMMANDER SECTION
(RM-X38)



Ref. No.	Part No.	Description	Remark
301	9-905-918-01	SHUTTLE ASSY	
302	9-905-919-01	CORD (WITOH PLUG)	
303	9-905-302-01	BUTTON E	
304	9-905-303-01	BUTTON D	
305	9-905-304-01	BUTTON C	
306	9-905-305-01	CASE (LOWER)	
307	7-685-105-19	M2X8	
308	9-905-297-01	ROTARY COMMANDER BOARD, COMPLETE	
☛ 309	1-467-165-31	REMOTE COMMANDER (RM-X38) (301-308)	

Sony Corporation
Mobile Electronics Company

English
95E0298-1
Printed in Japan
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Quality Engineering Dept.

MDX-400/400RDS

SONY

SERVICE MANUAL

US Model
Canadian Model
E Model
MDX-400

AEP Model
UK Model
MDX-400RDS

SUPPLEMENT-4

File this supplement with the service manual and supplement-1—3.

Subject : EXPLODED VIEWS AND ELECTRICAL PARTS LIST.

(SPM-95063)

Page	INCORRECT			CORRECT		
	Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
61	114	——	——	114	3-907-872-21	BUTTON (V/O) (MDX-400 : E)
						〈 TUNER UNIT 〉
74	——	——	——	TU1	A-3282-005-A	FM/AM TUNER UNIT (TUX-003)

English
95L0484-1
Printed in Japan
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Published by Home A&V Products Div.
Quality Engineering Dept.

9-959-245-89

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Mobile Electronics Company

MDX-400/400RDS

SONY

SERVICE MANUAL

US Model
Canadian Model
E Model
MDX-400

AEP Model
UK Model
MDX-400RDS

SUPPLEMENT-5

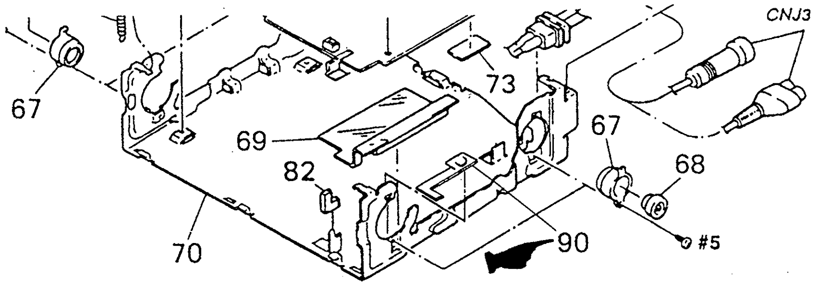
File this supplement with the service manual and supplement 1 – 4.

Subject : EXPLODED VIEWS PARTS LIST

- **EXPLODED VIEWS (Service Manual see page 60 and Supplement 1, 2 page 41.)**

	Before change			After change		
Ref. No.	Part No.	Description	Remark	Part No.	Description	Remark
90	————			* 3-007-146-01	SHEET (CONDUCTIVE)	

3-2. CABINET, CHASSIS SECTION ☛ : **Changed portion**



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English
9610280-1
Printed in Japan
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9-925-505-81

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Personal & Mobile Communication Company

MDX-400/400RDS

SONY

SERVICE MANUAL

US Model
Canadian Model
E Model
MDX-400

AEP Model
UK Model
MDX-400RDS

SUPPLEMENT - 6

File this Supplement with the Service Manual and Supplement 1–5.

Subject : EXPLODED VIEWS PARTS LIST

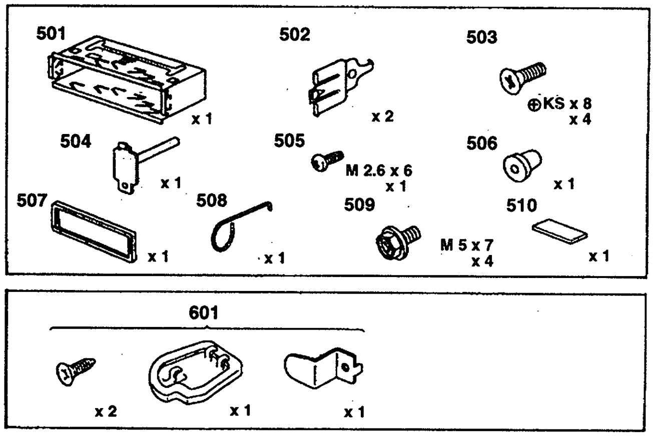
(RPC-97005)

☛ **: Changed portion**

- **EXPLODED VIEWS** (Service Manual see page 81 and Supplement 2 page 43)

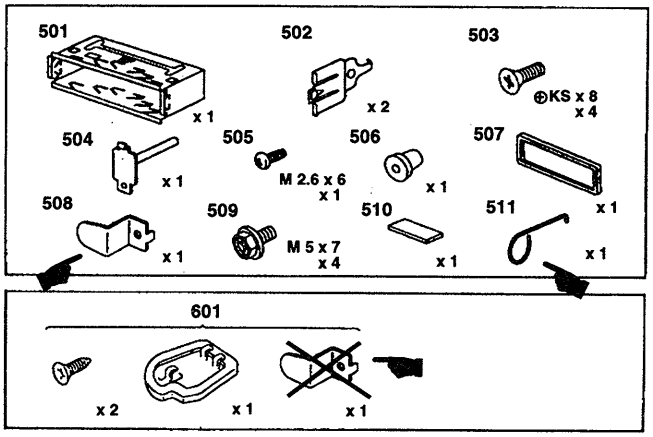
	Before Change			After Change		
Ref. No.	Part No.	Description	Remark	Part No.	Description	Remark
511				3-702-658-01	TOOL (REMOVE)	

MOUNTING HARDWARE



501
x 1
502
x 2
503
⊕KS x 8
x 4
504
x 1
505
M 2.6 x 6
x 1
506
x 1
507
x 1
508
x 1
509
M 5 x 7
x 4
510
x 1
601
x 2
x 1
x 1

MOUNTING HARDWARE



501
x 1
502
x 2
503
⊕KS x 8
x 4
504
x 1
505
M 2.6 x 6
x 1
506
x 1
507
x 1
508
x 1
509
M 5 x 7
x 4
510
x 1
511
x 1
601
x 2
x 1
x 1

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